STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

STATE AND CONSUMER SERVICES AGENCY • GOVERNOR EDMUND G. BROWN JR.
ACUPUNCTURE BOARD
444 N. 3rd Street, Suite 260, Sacramento, CA 95811
P (916) 445-3021 F (916) 445-3015 www.acupuncture.ca.gov

NOTICE OF ACUPUNCTURE BOARD MEETING

February 24, 2011

Bahia Resort Hotel
998 West Mission Bay Drive
San Diego, CA 92109

AMENDED AGENDA

FULL BOARD MEETING - 8:30 a.m.

1. **Call to Order and Establishment of a Quorum**

2. **8:30 a.m. HEARING: Petition for Reinstatement of Surrendered License**
   Petitioner: Yihan Fang (Case No. PRRL-1A-2010-197)

3. **10:00 a.m. HEARING: Petition for Early Termination of Probation or Modification**
   Petitioner: Kweon Young Yoo (Case No. PETP-1A-2002-132)

CLOSED SESSION

4. **Pursuant to Government Code Section 11126(c)(1) and (c)(3) to discuss/take action on examination administration, above hearings and disciplinary actions.**

OPEN SESSION

5. **Announcement from Closed Session**

6. **Election of Officers**

7. **Executive Officer's Report**

8. **Director's Report**

9. **Approval of November 18, 2010 Meeting Minutes** – (Discussion/Action)

10. **Administrative Update -** (Discussion/Action)
    a. Legislation
       1. AB 72 (Eng) - Health Care Coverage: Acupuncture
       2. Any other bills of interest to the Board
    b. Regulations
       1. Implementation of AB 2699 (Healing Arts: Licensure Exemption)

11. **Education Business –** (Discussion/Action)
    a. Update Pending School Applications
    b. School Site Report on Nine Star University (Approve/Not Approve)
    c. School Site Report on Golden State University (Approve/Not Approve)
    d. Dong-guk University, California (Review of Continued Approval)
    e. Statutory Change Setting Time Limit for Schools Reapplying for Approval

12. **Examination Business –** (Discussion/Action)
    a. February 10, 2011 Examination
    b. Book Resource List
    c. Educators as Subject Matter Experts

13. **Enforcement Business** – (Discussion/Action)
    a. Enforcement Case Report
    b. Enforcement Committee Formation
    c. Possible Statutory Changes Concerning Scope of Practice for Acupuncturists
    d. Dry Needling
    e. Cupping and Moxibustion by Unlicensed Practitioners
    f. Disability Evaluations in Workers Compensation System

14. **Future Agenda Items**

15. **Adjournment**

Public Comment on items of discussion will be taken during each item. Time limitations will be determined by the Chairperson. Times are approximate and subject to change. Action may be taken on any item listed on the Agenda.

THIS AGENDA, AS WELL AS BOARD MEETING MINUTES, CAN BE FOUND ON THE ACUPUNCTURE BOARD'S WEBSITE AT
www.acupuncture.ca.gov

Please Note: Board meetings are open to the public and are held in barrier free facilities that are accessible to those with physical disabilities in accordance with the Americans with Disabilities Act (ADA). If you need additional reasonable accommodations, please make your request no later than five (5) business days before this meeting. Please direct any questions regarding this meeting to the Administrative Technician at (916) 445-3021; FAX (916) 445-3015.

ACUPUNCTURE BOARD
Executive Officer's Report

Agenda Item: 7.0
Date: February 2011

- **Board Updates**

  There has been a lot happening these days with the transition to a new Governor and all the behind the scenes activities that are related to such a transition, e.g., changing all the letterhead to reflect the Governor, counting cell phones (we had 3 but gave up 2 exceeding the 50% request), wrapping up projects, etc.

  The Board currently has three vacant positions. Two of those vacancies are our front line phone positions, which has had a significant adverse impact on the entire office. As previously mentioned, a hiring freeze is still in effect. The only individuals we are allowed to interview must be currently employed by the Department at the Office Technician level. Of the 50 or so applications I have received, not one has been employed by the department.

  In an attempt to temporarily handle the answering of phones due to the vacancies, we changed the phone system to have a main message that gave callers the choice of what program they wanted by selecting a number. Apparently that system has not provided the necessary service and we have requested assistance from the department's telecom unit to have the phone ring directly on everyone's desk.

  All DCA employees, including board members, are required to receive biennial Sexual Harassment Prevention (SHP) training. I've received information from the department that most of our members are due for SHP training. Attached is information regarding this training as well as a list of the approved vendors that provide the SHP training. In that I'm required to notify the department of our compliance plan by April 4, 2011, please let me know ASAP what training class you will be taking.

  Things are still moving forward for the Board's relocation to the new building at DCA headquarters. I'm happy to report that they have pushed back the move until at least August. The cost of the move along with the increase in rent will have a significant impact to the Board's budget. Currently the Board pays approximately $1.50 a sq. ft. for 3,132 net usable square feet. At the new location, the rent will be $2.25 a square foot for 3,539 square feet.

- **DCA Update**

  The Director of DCA has been conducting conference calls for Board Chair persons and Executive Officers on a monthly basis to keep the Boards in the loop of issues facing DCA today and issues that effect how the Boards operate. Attached please find the agenda for the most recent conference call on February 8th as well as notes from the January conference call.

- **Budget Update**

  On February 9, 2011, Governor Jerry Brown issued a press release calling off the previous administration's "short-sighted" proposal to see and leaseback 11 state properties. The Governor stated the sale and leaseback proposal was short-sighted and would have cost taxpayers billions of dollars in the long-run. He further stated the selling and leasing back of the state's buildings for one-time gains is not prudent. To replace the one-time revenue this would have generated, the Governor proposed amending his budget proposal to include borrowing $830 million from special fund reserves. What this means to our program is they are borrowing $5 million from the Acupuncture Board reserves effective July 1, 2011. Attached you will find an analysis of our fund condition which reflects the $5 million dollar loan. We have been advised that all loans will be paid back by FY 2013-14 with interest.

STATE OF CALIFORNIA
dca
DEPARTMENT OF CONSUMER AFFAIRS

STATE AND CONSUMER SERVICES AGENCY • GOVERNOR EDMUND G. BROWN JR.
EXECUTIVE OFFICE
1625 North Market Blvd., STE S-308, Sacramento, Ca 95834
P (916) 574-8200 F (916) 574-8613 www.dca.ca.gov

MEMORANDUM

DATE: February 14, 2011

TO: All Executive Officers
All Division and Bureau Chiefs

FROM: Kimberly Kirchmeyer, Acting Chief Deputy Director
Executive Office

SUBJECT: Mandatory Sexual Harassment Prevention (SHP) Training Compliance Plan

In accordance with the DCA Sexual Harassment Prevention (SHP) Policy (EEO 09-02), and to ensure compliance with Assembly Bill (AB) 1825, all DCA employees are required to receive biennial Preventing Sexual Harassment training.

This week you will receive a spreadsheet from the Equal Employment Opportunity (EEO) Office that lists the names of employees in your Board, Bureau, Division, or Program and the dates training was completed for each employee through January 31, 2011. The names highlighted in yellow are out of compliance, as the EEO Office does not have a record of SHP training compliance for the named employee(s).

You may need to update your spreadsheet to remove names of employees who inadvertently selected your Board, Bureau, Division, or Program when completing the training or those who have left your Board, Bureau, Division, or Program.

I am requesting your support in ensuring that all Managers, Supervisors, Board and Commission Members, Rank and File, and Temporary Employees (Retired Annuitants, Proctors, Seasonal Employees, and Student Assistants) complete this training. After reviewing your spreadsheet, please submit a plan of action in response to this memorandum to advise the EEO Office of your proposed actions and the date(s) SHP training will be completed for the employee(s) that are currently out of compliance. If any of the employees highlighted on the list are off work due to an extended leave of absence, please note their anticipated return to work date on your compliance plan. Please provide your compliance plan to the EEO Office on or before **April 4, 2011**.

Please be aware that our contract with the vendor that provided online training has expired. Please see the attached list of vendors that provide SHP training that meet the requirements of AB 1825. Please contact Mary Tarango, EEO Specialist at 916-574-8283 or Latania Robinson, EEO Officer at 916-574-8281, with any questions related to this request.

PREVENTING SEXUAL HARASSMENT TRAINING PROVIDERS

SHAW VALENZA LLP
Course Title: *Preventing Harassment and Other EEO Issues at Work: It's All About Respect (AB 1825 Compliance)*
Delivery Method: Online and in class
Sacramento: February 15, 2011
Webinar: April 14, 2011
Sacramento: June 14, 2011
Webinar: August 16, 2011
Sacramento: October 18, 2011
Webinar: December 13, 2011
For More Information Contact:
Shaw Valenza LLP
520 Capitol Mall, Suite 630
Sacramento, CA 95814
Email: rstover@shawvalenza.com
Web Page: http://www.shawvalenza.com
Phone: (916) 326-5150
Fax: (916) 497-0708

STATE PERSONNEL BOARD
Course Title: *Sexual Harassment Prevention*
Delivery Method: In class Sacramento
April 7, 2011 8:30 a.m. - 11:30 am
For More Information Contact:
(916) 653-2085

WORKPLACE ANSWERS INC
Course Title: *Sexual Harassment Prevention for California Supervisors*
Delivery Method: Online
For More Information Contact:
Workplace Answers
One Montgomery St., Suite 2350
San Francisco, CA 94104
Email: bferrari@workplaceanswers.com
Web Page: http://www.workplaceanswers.com
Phone: (415) 814-6016
Fax: (415) 449-6882

STATE OF CALIFORNIA

DEPARTMENT OF CONSUMER AFFAIRS

DCA Director and Board/Committee
Communication Session
Agenda

Tuesday, February 8, 2011
9:00 a.m. – 10:00 a.m.
Conference Call
Conference Call # - (866) 633-7693
Participant Code - 5680540#

DCA:

Brian Stiger, Kim Kirchmeyer, Doreathea Johnson, Paul Riches, Pam Wortman, Bev Augustine, Debbie Balaam, LaVonne Powell, Cindy Kanemoto

Boards and Committees (Board/Committee President/Chair and Executive Officer) Invited: Acupuncture Board, Board of Behavioral Sciences, Dental Board, Dental Hygiene Committee, Medical Board, Naturopathic Committee, Board of Occupational Therapy, Board of Optometry, Osteopathic Medical Board, Board of Pharmacy, Physical Therapy Board, Physician Assistant Committee, Board of Podiatric Medicine, Board of Psychology, Board of Registered Nursing, Respiratory Care Board, Speech-Language Pathology and Audiology and Hearing Aid Dispenser Board, Board of Vocational Nursing and Psychiatric Technicians, Veterinary Medical Board

Agenda

- Welcome / Roll Call
- Transition
- Hiring Freeze
- Cell Phone Reduction Executive Order
- Vehicles Executive Order
- Performance Measures and Targets
- Lunch Break during Board Meetings
- Attorney General Liaison at Board Meetings
- SB 1441 Uniform Standards
- Travel
- Roundtable Discussion
- Next call will be on March 8, 2011

STATE OF CALIFORNIA

dca

DEPARTMENT OF CONSUMER AFFAIRS

DCA Director and Board/Committee

Communication Session
NOTES

Tuesday, January 11, 2011
9:00 a.m. – 10:00 a.m.
Conference Call

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DCA Attendees:
Brian Stiger, Kimberly Kirchmeyer, Paul Riches, Cindy Kanemoto, Debbie Balaam, & Bev Augustine

Boards and Committees (Board/Committee President/Chair) attendees: Elise Froistad, Dr. Bruce Whitcher, Alex Calero, Barbara Yaroslavsky, Dr. Lee Goldstein, Stan Weisser, Dr. Geraldine O'Shea, Dr. Sara Takii, Dr. Karen Wrubel, Dr. Richard Sherman, Jeannine Graves, Lisa O'Connor, Todd D'Braunstein, &Dr. Stephanie Ferguson

Transition – Brian Stiger

- Brian Stiger stated that Bill Young had retired and that he has asked Kimberly Kirchmeyer to fill in as Acting Chief Deputy Director
- DCA continues to comply with the hiring freeze directive. However Director Stiger stated that he is going to suggest that Agencies be able to perform promotions in place for current employees.
- DCA was not mentioned in the Governor's Budget specifically but it will have to address the Governor's directive to cut the number of cell phones by 50% and justify the vehicles currently in DCA's fleet.

Continuing Competency – Brian Stiger, Kimberly Kirchmeyer, Dr. Wrubel, and Jim Rathlesberger

- Brian Stiger indicated the importance of continuing competency and Kimberly Kirchmeyer stated that the Podiatric Medical Board had legislation that became effective in 1998 that provided for continuing competency for podiatrists.
- Section 2496 of the Business and Professions Code identifies the manner in which a podiatrist has to comply with continuing competency.
- The number of complaints has drastically decreased since continuing competency was implemented.
- The Board identified multiple pathways which assisted with encouraging compliance from the licensee.
- The profession has accepted the continuing competency because it is a professional standard.
- There should be more outreach to the public letting them know that the professions do perform continuing education.
- DCA will hold a separate meeting focused solely on continuing competency.

Performance Measures – Bev Augustine

- The 2nd quarter statistics for the performance measures are due January 19th.
- DCA will provide a draft by January 26th and hope to have them placed on the DCA Internet by February 1st.
- DCA will send the link to all Board Presidents.

Interim Credit Card Solution – Debbie Balaam

- Debbie Balaam explained that the DCA has identified a way to allow online renewals until the BreEZe project is implemented.
- The Physical Therapy Board was the pilot project and is now using this interim solution.
- This new process is available to those who do not currently allow online renewals, however, there are about 6 Boards waiting for this program.

- This process requires at least a 3-month time frame for implementation once it begins because of the timing for the credit card company.
- DCA will send out materials to the Board Presidents regarding this solution.

SB 1441 Uniform Standards – Brian Stiger
- Director Stiger strongly encouraged all the Boards to comply with the Uniform Standards.
- This may be an item that comes up during the Sunset Review Hearings.

Miscellaneous
- DCA received a public records act request from KCRA requesting how much money was spent by DCA Boards and Bureaus on promotional materials over the last 3 years.
- Director Stiger encouraged Boards to move forward with getting contracts in place for their expert consultants.

Next call is February 8th

DCA List:
- Send out the information on continuing competency from the Board of Podiatric Medicine
- Set up a meeting solely for continuing competency
- Send out information on the interim credit card solution
- Send link for the Performance Measurements

0108 - Acupuncture
Analysis of Fund Condition

Prepared 2/9/11

(Dollars in Thousands)

CY 2010-11 Approved Budget
Proposed FY 11-12 GF Loan with repay in FY 13-14

	Actual 2009-10	CY 2010-2011	Governor's Budget BY 2011-2012	BY+1 2012-2013	BY+2 2013-2014	BY+3 2014-15
BEGINNING BALANCE	$ 4,745	$ 5,286	$ 5,448	$ 459	$ 384	$ 5,255
Prior Year Adjustment	$ 40	$ -	$ -	$ -	$ -	$ -
Adjusted Beginning Balance	$ 4,785	$ 5,286	$ 5,448	$ 459	$ 384	$ 5,255
REVENUES AND TRANSFERS						
Revenues:						
125600 Other regulatory fees	$ 38	$ 40	$ 40	$ 40	$ 40	$ 40
125700 Other regulatory licenses and permits	$ 836	$ 893	$ 893	$ 893	$ 893	$ 893
125800 Renewal fees	$ 1,446	$ 1,691	$ 1,604	$ 1,604	$ 1,604	$ 1,604
125900 Delinquent fees	$ 11	$ 12	$ 11	$ 11	$ 11	$ 11
141200 Sales of documents	$ -	$ -	$ -	$ -	$ -	$ -
142500 Miscellaneous services to the public	$ 2	$ 2	$ 2	$ 2	$ 2	$ 2
150300 Income from surplus money investments	$ 31	$ 54	$ 52	$ 4	$ 3	$ 51
150500 Interest Income From Interfund Loans	$ -	$ -	$ -	$ -	$ -	$ -
160400 Sale of fixed assets	$ -	$ -	$ -	$ -	$ -	$ -
161000 Escheat of unclaimed checks and warrants	$ 3	$ 3	$ 3	$ 3	$ 3	$ 3
161400 Miscellaneous revenues	$ -	$ -	$ -	$ -	$ -	$ -
Totals, Revenues	$ 2,367	$ 2,695	$ 2,605	$ 2,557	$ 2,556	$ 2,604
Transfers from Other Funds						
GF 11-12 Loan Repayment					$ 5,000	
Transfers to Other Funds						
Proposed GF P Proposed GF Loan			$ -5,000			
Totals, Revenues and Transfers	$ 2,367	$ 2,695	$ -2,395	$ 2,557	$ 7,556	$ 2,604
Totals, Resources	$ 7,152	$ 7,981	$ 3,053	$ 3,016	$ 7,940	$ 7,859
EXPENDITURES						
Disbursements:						
8840 FSCU (State Operations) - DOF update	$ 2	$ 5	$ 3			
8860 FSCU (State Operations)	$ -	$ -	$ -	$ -	$ -	$ -
8880 Financial Information System for CA (State Operations)		$ 2	$ 11			
1110 Program Expenditures (State Operations)	$ 1,864	$ 2,529	$ 2,580	$ 2,632	$ 2,685	$ 2,739
BreEZe funding realignment		$ -3				
Total Disbursements	$ 1,866	$ 2,533	$ 2,594	$ 2,632	$ 2,685	$ 2,739
FUND BALANCE						
Reserve for economic uncertainties	$ 5,286	$ 5,448	$ 459	$ 384	$ 5,255	$ 5,120
Months in Reserve	25.0	25.2	2.1	1.7	23.0	22.0

NOTES:

A. ASSUMES WORKLOAD AND REVENUE PROJECTIONS ARE REALIZED

B. EXPENDITURE GROWTH PROJECTED AT 2% BEGINNING FY 2011-12

0108 - Acupuncture
Analysis of Fund Condition

Prepared 2/9/11

(Dollars in Thousands)

CY 2010-11 Approved Budget
Proposed FY 11-12 GF Loan with repay in FY 13-14

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Prior Year Adjustment		$ 40	$ -	$ -	$ -	$ -	$ -
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125900	Delinquent fees	$ 11	$ 12	$ 11	$ 11	$ 11	$ 11
141200	Sales of documents	$ -	$ -	$ -	$ -	$ -	$ -
142500	Miscellaneous services to the public	$ 2	$ 2	$ 2	$ 2	$ 2	$ 2
150300	Income from surplus money investments	$ 31	$ 54	$ 52	$ 4	$ 3	$ 51
150500	Interest Income From Interfund Loans	$ -	$ -	$ -	$ -	$ -	$ -
160400	Sale of fixed assets	$ -	$ -	$ -	$ -	$ -	$ -
161000	Escheat of unclaimed checks and warrants	$ 3	$ 3	$ 3	$ 3	$ 3	$ 3
161400	Miscellaneous revenues	$ -	$ -	$ -	$ -	$ -	$ -
Totals, Revenues		$ 2,367	$ 2,695	$ 2,605	$ 2,557	$ 2,556	$ 2,604
Transfers from Other Funds							
GF 11-12 Loan Repayment						$ 5,000	
Transfers to Other Funds							
Proposed GF P Proposed GF Loan				$ -5,000			
Totals, Revenues and Transfers		$ 2,367	$ 2,695	$ -2,395	$ 2,557	$ 7,556	$ 2,604
Totals, Resources		$ 7,152	$ 7,981	$ 3,053	$ 3,016	$ 7,940	$ 7,859
EXPENDITURES							
Disbursements:							
8840	FSCU (State Operations) - DOF update	$ 2	$ 5	$ 3			
8860	FSCU (State Operations)	$ -	$ -	$ -	$ -	$ -	$ -
8880	Financial Information System for CA (State Operations)		$ 2	$ 11			
1110	Program Expenditures (State Operations)	$ 1,864	$ 2,529	$ 2,580	$ 2,632	$ 2,685	$ 2,739
	BreEZe funding realignment		$ -3				
Total Disbursements		$ 1,866	$ 2,533	$ 2,594	$ 2,632	$ 2,685	$ 2,739
FUND BALANCE							
Reserve for economic uncertainties		$ 5,286	$ 5,448	$ 459	$ 384	$ 5,255	$ 5,120
Months in Reserve		25.0	25.2	2.1	1.7	23.0	22.0

NOTES:

A. ASSUMES WORKLOAD AND REVENUE PROJECTIONS ARE REALIZED

B. EXPENDITURE GROWTH PROJECTED AT 2% BEGINNING FY 2011-12

'Battlefield acupuncture' aiding concussion victims

ANCIENT CHINESE PRACTICE COUNTERS EFFECTS OF BOMBS

By Saeed Shah
sshah@mcclatchydc.com

CAMP LEATHERNECK, Afghanistan – The U.S. military is applying an ancient Chinese healing technique to the top modern battlefield injury for American soldiers, with results that doctors here say are "off the charts."

"Battlefield acupuncture," developed by Air Force physician Col. Richard Niemtzow, is helping heal soldiers with concussions so they can return more quickly to the front lines.

At Camp Leatherneck, an enormous Marine Corps base in southern Afghanistan's Helmand province, a military doctor's consulting room has dim little Christmas lights arranged across the ceiling and new age music playing.

Cmdr. Keith Stuessi asks his patients to relax in a darkened chamber and then gently inserts hair-thin needles into special points on their body: between the eyebrows, in the earlobe, on the top of the head, into the webbed part of the hand between the thumb and fingers, and on top of the feet between the first and second metatarsal. The needles may look gruesome, but they don't hurt.

Stuessi, a Navy doctor whose rank is equivalent to lieutenant colonel, treats concussions, a mild brain trauma.

"I'm seeing pretty incredible results," said Stuessi, who's based at the Marine Corps' Camp Pendleton, near San Diego. "In my heart I think this will, down the road, become one of the standards of care."

Homemade bombs called improvised explosive devices, or IEDs, are the leading killer of coalition troops in the Afghan war. Even those without visible injury, but who were close to a blast, can feel the pressure wave from the explosion rush through their bodies. A concussion is caused by the pressure wave traveling through the brain, without anything necessarily hitting the head.

Some personnel are knocked unconscious and ruptured eardrums are common. Even those who don't black out can have the same debilitating aftereffects: dizziness, loss of balance, ringing in the ear, crushing insomnia, an aversion to light and a pounding headache. It typically takes two weeks to recover from the concussion, Stuessi said.

The webbed part of the hand between the thumb and fingers is one of several spots on the body where the extremely thin needles are inserted into the skin. "I'm seeing pretty incredible results," said Stuessi. "In my heart I think this will, down the road, become one of the standards of care."

Gunnery Sgt. Williams, a 36-year-old Marine from Brunswick County, N.C., who said he wouldn't give his first name out of superstition, was 10 days in from a concussion he received in Musa Qala, in northern Helmand, when he arrived in Stuessi's office.

Climbing down off a roof, during a mission to set up a new patrol base, a soldier three feet in front of him stepped on an IED – and had to have both legs amputated below the knee.

Williams was knocked unconscious for about 10 seconds and suffered a grade-three concussion, the most severe, though he was otherwise unhurt. Others realized something was wrong when he started talking nonsense and he was flown to a hospital.

The next day, Williams had all the symptoms of concussion: a severe headache, poor balance, dizziness and excess sensitivity to light. Worse, he couldn't sleep. On the fourth day after the incident, the most grueling day for the headache, Stuessi suggested he try acupuncture.

"I didn't know much about acupuncture, but I was willing to try anything to get back (to duty)," Williams said. "That night, I slept for about 10 hours, and when I woke, the headache wasn't as severe."

Williams has had four acupuncture sessions with Stuessi and is sleeping well. Sleep is the most important cure for concussion.

"It (acupuncture) relaxes me a lot. I always feel good after the treatment," Williams said. "The headache is gone. There's still some ringing in my ear and I'm still working on the balance."

Stuessi has treated 50 patients with acupuncture at the specialist Concussion Restoration Care Center at Camp Leatherneck. He describes the results as "phenomenal." After one treatment, patients are often getting a full night's sleep and the headache is greatly reduced.

"People will always be skeptical. I may not be able to explain what's happening at a cellular level, and some of the effect could be placebo, but if the pain goes away, I don't care too much about that," said Stuessi.

Stuessi said he thought it worked by adjusting the "neural pathways" in the body.

Scientific studies on acupuncture haven't been able to prove its effectiveness. But Stuessi isn't alone in using it in the U.S. military. The Navy alone has trained about 50 doctors in acupuncture, Stuessi said.

The Air Force uses the technique to dampen the pain for wounded soldiers during long flights back to the United States.

Saeed Shah is a McClatchy special correspondent based in Islamabad.

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Draft

ACUPUNCTURE BOARD MEETING MINUTES

California State Capitol

FULL BOARD MEETING

November 18, 2010

Members Present
Robert Brewer, Public Member, Chair
Charles Kim, Public Member
Anyork Lee, L.Ac,
George Wedemeyer, Public Member
Paul Weisman, Public Member
Nancy Carroll, L.Ac.
Frank He, L.Ac

Staff Present
Janelle Wedge, Executive Officer
Spencer Walker, Staff Counsel
Christie Loftin, Examination Coordinator
Kristine Brothers, Enforcement Coordinator
Benjamin Bodea, Education Coordinator
Benjamin Bodea, Administrative Technician

Guest List on File

1. Call to Order and Establishment of a Quorum

Quorum established. Meeting called to order at 9:36Am

2. Chairs Report

a. Introduction of New Members

Members Nancy Carroll and Frank He introduced themselves to the public as the two new licensed members.

b. Announcement of Blue Ribbon Panel

Moved to after Enforcement Business

Chair Brewer announced that the new Panel will consist of five members with Chair Brewer as the moderator. The Panel consists of Ted Priebe, Bill Mosca, Jack Miller and Elizabeth Goldblatt. This group will fall under the Public Meeting Act and he is working with the Department to host the panel through telepresence/conferencing. Member Kim asked when will the Panel have something to report to the Board. Chair Brewer anticipates meeting before the next Board Meeting where in the topics and timeline will be discussed. This can be brought to the Board at the next Board meeting. Neal Miller stated that the panel seems too small to offer a wide enough perspective or background.

3. Executive Officer's Report

a. Board Update

Executive Officer Janelle Wedge welcomed the new members and informed them of the Board member orientation. She also indicated that the current Education Coordinator, Cathy Hardin, has taken a

promotion with the Department of Education. With governor Schwarzenegger's hiring freeze is still in effect, only current department employees can apply for the position.

b. DCA Update

The Boards Retroactive Fingerprinting Regulations were approved by the Officer of Administrative Law on September 23rd and became effective on October 23, 2010.

Currently the Board is charged $1.50 sq for approximately 3100 sq. ft. at the new location at DCA Headquarters the Board will be charged approximately $2.25 a sq. ft. for approximately 3500 square feet. A significant increase for rent as well as the relocation costs.

The Board will be kept updated on the transition to the new administration.

c. Budget Update

The state now has a budget which included a reduction in personnel services for state agencies, including workforce cap plan by 5% reduction in our personal services line item, a Personal leave date for each employee once a month resulting in a 5% employee payroll reduction, state workers will contribute an additional 3% to their pension benefits and Furlough Fridays have ceased beginning November 2010. The Workforce cap will require a reduction in staff for 2011-12.

4. Directors Report

Kimberly Kirchmeyer informed of the Board of the budgetary changes in the department. She noted updates on the Consumer Protection Enforcement Initiative. Performance measurement data has been collected and will be posted on the Department's website by November. They will be posted quarterly. The department urges the Board to move forward with the regulation changes currently discussed by the Board. The Breeze system will be going online by December 2012 which will have improvements in form standardization, data conversion and reports as well as allow the licensees and the public to process transactions online. The department urges the board to webcast their Board Meetings if possible. Chair Brewer asked if exam data be a part of the upgrades to BREEZE. Kimberly Kirchmeyer affirmed.

5. Approval of the August 19, 2010 Meeting Minutes

Corrections were brought to the Board's attention and noted to be reflected before posted.

CHARLES KIM MOTIONED TO ADOPT THE AMENDED MINUTES . FRANK HE SECONDED. 5 – 0 – 0. MOTION PASSED.

6. Legislation Update

a. SB 294 (Negrete McLeod): Changes Sunset Review Dates for Boards. Signed by the governor extending our sunset date to January 2015.

b. AB 2699 (Bass) – Healing Arts: Licensure Exemption: Provides exemption until January 1, 2014 for out of state licensees for sponsored events if cleared with their respective Boards.

c. Legislative Submission Deadline - Dec 3, 2010

7. Education Business

a. Update Pending School Applications

No updates.

b. Dong-guk University, California

Dong-guk University agreed to do a teach out when Samra University closed as well as making some agreements with students that didn't fall under the teach out allowing them to finish. Letters from the students express that they do not believe they are getting the deal they were promised, especially the English speaking students. Reviewing their letters merited that their concerns should brought to the Board. Representatives from the University have been informed and are in attendance today.

TJ and Mike Kim introduced themselves stating that they started October 1 and November 1 of this year respectively. The president of the school is also in attendance. Chair Brewer asked that the President of the school address the Board as well. Mike Kim responded that the President also started on October 1, appointed by the schools Board in South Korea. Chair Brewer asked if anyone from the original administration was left at the school that were familiar with the curriculum transfer to make sure that the curriculum was taken care of. Mike Kim replied that his report is based on his experience over the last two weeks at Dong-guk, Los Angeles (DULA), the school has honored the teach out program for the students who have 45 credit units. TJ shared that Dr. Yi Di So (?)and David Lee have been terminated and the program director Dr. Nathan Anderson resigned after three days in his position. DULA has attempted to keep staff from SAMRA with two still employed. One hundred and fifteen students came to DULA with twenty being in the teach out. David Lee, former provost of Samra, remains with DULA and is the counselor of the doctorate program and helping with the MSOM. TJ noted the contract with Samra students. If the student had 45 units left then they are teach out students and if they are over they are transfer students. TJ circulated the contract to the Board. Chair Brewer asked TJ to address why the students feel their contracts aren't being addressed. TJ noted that the former English Program Provost was demoted was because Ms. Yeiji So had been absent from DULA for two semesters. None of the transfer credit was inputted into the computer and there was a verbal agreement between the former director and the Samra transfer students but no written document. TJ believes it was beyond her authority to make promises and the new administration agreed. Chair Brewer indicated that as Program Director it seems totally within her power to engage in agreements. TJ responded that regardless of the promises the previous director made, he has been honoring all the promises that have been made. Transfer credit evaluations have been completed. Member Lee asked about the transcript discrepancies. TJ responded that this if students ask for their transcripts prior to the instructors submitting the scores then transcripts must be issued without that specific data.

Chair Brewer stated that there were many complaints and as such what process has DULA put in place with the students to make sure all their concerns, needs and complaints are met. Mike Kim responded that he is holding an open forum next week with these students. Chair Brewer asked that the board be informed on how these needs are being addressed and how DULA continues integrating these students into the DULA student body, especially in the English Program. Mike Kim addressed that more than 40% of the English Program instructors will have English as their primary language. Chair Brewer requested that DULA come back to the Board's next meeting. He also asked that DULA submit a report by the end of January that addresses all the issues brought before the Board today. Member Weisman stressed that the issue of transcript discrepancies need to be a priority. Member Wedemeyer asked that after this issue is resolved that the Board engage a review of the school. Member Lee asked that the Board look into DULA's documentation of their records after the school has resolved this issue. Member Kim stated that contracts need to be honored and that the clinic director needs to be able to communicate with the English Speaking students. Chair Brewer agreed that a review of the DULA program after this issue is resolved would be beneficial. Member He asked that DULA have a clear hiring policy for instructors/staff. Member Wedemeyer asked if DULA has heard from ACCAOM anything about this. TJ responded no.

Yeiji So, former Provost at DULA, introduced herself and stated that she had not been dismissed but is currently on official leave of absence as advisor to the president, indicating that there does seem to be a miscommunication issue with the new administration at DULA. She originally brokered the deal with the Samra students and offered to answer the Board's questions. Chair Brewer asked why she no longer has that position. Ms. So was not able to respond but stated that the Board will receive a written response and in the meantime she will see that the students issues will be resolved. She noted that she doesn't currently have much academic input. Member Kim asked what the academic differences were between Samra and

DULA. Janelle Wedge noted that there were very few differences with only three courses have any notable differences. Janelle asked when Ms. So is expected to return. She replied that she will be leaving for Asia the following week but will return in February. Chair Brewer asked what DULA needs to do to ensure these changes are carried out. She responded that a detailed discussion with the president about curriculum will need to take place and she'll assist the president in this matter. Dr. Goldblatt noted that teach outs can be complicated but there will always be agreements and that the students should have received a copy and that ACCAOM should have been sent copies of this as well. Ms. So stated that the written teach out agreement is available on the ACCAOM website. Janelle Wedge responded that it wasn't the students from the teach out that were an issue but those students who didn't fall under that teach out agreement. Chair Brewer asked if DULA had this agreement on them. Ms. So replied no. Chair Brewer asked that the Board be provided a copy of that agreement. He stated that ACCAOM will be contacted and the Board may need to meet with the new administration prior to the next Board Meeting

c. Continuing Education Classes

Hugh Morrison of the National Guild approached the Board to discuss the approval of content matter of Continuing Education consistent with B&P code 4926 and 4927. He shared a list of some of the most outrageous titles, including Reiki, hypnotherapy, medical astrology, herbal medicines. He contends that the Board has not used its power to critically review this content matter which threatens the profession. Mr. Morrison urges the Board to protect the public by re-examine the methodology by which it determines compliance with Category one guidelines and further clarify what category one guidelines are. Mr. Morrison brought the example of bloodletting to the Board's attention. Chair Brewer asked if this was a CE Course. Mr. Morrison responded yes. Chair Brewer asked if there is a historical precedent for bloodletting with the practice of Acupuncture. Board Counsel Spencer Walker noted that bloodletting was not within an Acupuncturist's scope of practice. Chair Brewer stated that the topic is then about the content matter of CE courses and how it informs the practice. Member Wedemeyer shared that he spent time with Janelle Wedge looking at some of these courses. Janelle Wedge stated that she is working closely with Spencer Walker to establish proper guidelines and will do so with the future Education Coordinator. Chair Brewer noted that CEUs are under the direct purview of the Blue Ribbon Panel and will be discussed there. Ted Priebe shared criteria content that the Work Comp committee and other organizations use to approve courses in their field. Member Kim asked if this discussion will be held in the Blue Ribbon panel if the matter can be tabled for the future. Neal Miller noted that there are courses out there that would benefit the profession but that the organizations are not applying for approval. Bill Mosca agreed that though there are some problems with some of the courses approved it's not as large as presented and there is nothing saying that CE content has to stay within the scope of practice and using that as the standard is far too restrictive. Liza Goldblatt stressed that the Board should be careful about swinging too far into a restrictive position and that there are historical precedents that should not be forgotten.

8. Examination Business

a. August 10, 2010 Exmination Statistics

Christie Loftin, Examination Coordinator, presented the Board with the statistics. She was made aware that the school statistics have some corrections needed and the Board will be updated on that. Member Kim asked if the Board can start on legislation limiting the number of times one can take the Licensing Exam. Janelle Wedge responded that she will contact the Legislative office. Hugh Morrison asked if the Board if it was still considering pursuing review of schools whose students have low pass rates. Janelle Wedge replied that the Board does look at that but the schools fluctuate in terms of their pass rates and when taking just first time takers into account the numbers are above 50%. She added that school statistics can be problematic as a marker since some schools will only have 3 students taking the exam. This can be misleading. Liza Goldblatt recommended a statutory change that if a student fails five times,

they would be required to take more classes or engage in the tutorial program for six months before testing again.

b. February 10, 2011 Examination

The exam will be held in Ontario, CA. Letters have been sent out to the examinees.

c. Herb/Formula List

Janelle Wedge brought the list back to the Board with the Korean translation Member Kim had asked be included on the list. Once the SME's had reviewed, some concerns were raised about the new list. Dr. Chen is here to address the Board's questions. Member Kim noted a mistranslation of an herb into Korean. Janelle Wedge stated that two Korean SME practitioners reviewed the translations. Dr. Chen noted that most of the glaring errors have been corrected. The Board is left with finding the most commonly used name. Practitioners will recognize the name despite its specific translation. Janelle Wedge shared that it's too late for the new list to be incorporated into the August 2011 exam. A student shared that the new herb list is being published on the website for the study guide for the February 2011 exam. Chair Brewer stated that the Board will look into the matter and make the necessary changes. Janelle Wedge asked the Board if they would like to adopt the new list. Chair Brewer asked Dr. Chen about the SMEs concerns. Dr. Chen replied that the PPRC (Pharmacopeia of the People's Republic of China) is the standard used for the naming of herbs but the SMEs are requesting to change the names to their more traditional names. Dr. Chen has been made aware of the concerns the SMEs had and endorsed the use of PPRC standard and stands by the changes to the list. Mr. Mora Marco stated that schools need a transition time to adapt to the new changes to the list into their courses. Member Lee replied that this list is not new but including small changes. Bill Mosca addressed that there seems to be a disconnect between academics and SMEs and that the Board take a careful look at the exam process and get input from educators/academics with out compromising the exam.

d. Clinical Exam

Member Lee stated that the Clinical Exam was stopped in 1999 but some in the profession has raised the concern of no longer offering it. He noted that the Board did discuss in the past the issues and that a list of ways to improve it has been made. Liza Goldblatt suggested that this topic be relegated to the Blue Ribbon Panel since in the past the trouble with the exam is that it's highly subjective and legally challenging to uphold. Greg Sperber noted that the clinical exam can stand as a barrier to entry into the profession. Neil Miller noted that most schools will claim that the clinical portions are best tested by the schools. He then stressed that there should be a standard that the Board uses to insure consumer safety. It's not necessarily a barrier to entry if it helps protect the public. Bill Mosca asked for data to support the use of a practical exam.

9. Enforcement Business

a. Enforcement Case Report

Enforcement Coordinator Kristine Brothers presented the report to the Board. She also presented the Board with the monthly report that is reported for the CPIE. Member Kim asked about the high number of citations awarded for the CE Audits. Janelle Wedge replied that it's sometimes the fault of the providers incorrectly advertising that the course was approved. Member Kim replied that roughly one in four is still a high number. Chair Brewer noted that licensees are becoming aware that we are keeping watch. Member He noted that he is a provider and that the Board communicates the requirements. Bill Mosca shared that he feels the problem lies largely with the providers and their compliance with the specific requirements for advertisements are really low and something that the Board should address. Chair Brewer asked if the Board requests a copy of the advertisement. Janelle Wedge responded yes. Bill Mosca suggested that providers send us a copy of all their communications they put out or the statements that will be used. Chair Brewer encouraged the public and practitioners to submit any problematic advertisements

to the Board. Member He suggested that a panel staff and licensees be setup to review CE courses with at least three members to review the questionable courses.

b. Possible Statutory Changes Concerning Scope of Practice for Acupuncturists

Chair Brewer stated that this will be dealt with under the Blue Ribbon Panel.

10. Set 2011 Acupuncture Board Meeting Dates

February 24, 2011 will be held in San Diego. May 18, 2011 will be held in Orange County or Los Angeles. August 25, 2011 and November 17, 2011 will be held in Sacramento.

11. Future Agenda Items

Neal Miller brought up discrimination in L.Ac's carrying out disability evaluations in the Work Comp system. Greg Sperber asked to discuss educators being SMEs. Jacque Mora Marco asked for a review of the new Booklist. James Kim asked to talk about dry needle technique and how other professions are trying to take the needling modality. James Kim also asked for more data on matriculation to graduation to practice. Benjamin Deerhoff asked to expand the reference book list and also not making that list public. Philip Yang asked that the Board bring Nine Star University's application be brought before the next Board Meeting. Member Kim asked that the school application process be reviewed especially how soon a school can reapply if fails. Sunny Kim asked that Golden State University Application be considered. She also asked for cupping and moxibustion used outside of the Acupuncture profession to be placed on the Agenda. Kyung Hee Lee('s license status?) asked to be placed on the agenda.

12. Public Comment Period

Neal Miller reiterated the Board reconsiders the size of the Blue Ribbon Panel, as well as including a member of the Asian community. Liza Goldblatt that the timeline that the Blue Ribbon Panel decides on may take a little longer to develop once the group gets together. She also mentioned some changes to the health law that would prohibit discrimination of the use of the different healthcare practitioners. Hugh Morrison stressed the importance of practitioners be able to communicate with the rest of the health care professions.

CLOSED SESSION

13. Pursuant to Government Code Section 11126(c)(3) the board will convene in closed session to deliberate and take action on disciplinary matters.

OPEN SESSION

14. Announcement from Closed Session and Adjournment

Chair Brewer stated that the Board came to a decision during closed session and with no further business the Board meeting is adjourned at 5:00.

ASSEMBLY BILL No. 72

Introduced by Assembly Member Eng

December 21, 2010

An act to amend Section 1373.10 of the Health and Safety Code, and to amend Sections 10127.3 and 10176 of the Insurance Code, relating to health care coverage.

LEGISLATIVE COUNSEL'S DIGEST

AB 72, as introduced, Eng. Health care coverage: acupuncture.

Existing law requires a health care service plan, that is not a health care maintenance organization or is not a plan that enters exclusively into specialized health care service plan contracts, and a disability insurer issuing policies on a groupwide basis, to offer acupuncture coverage under those terms and conditions as may be agreed upon by the parties, with specified exceptions. A willful violation of the laws regulating health care service plans is a crime.

This bill would instead require every health care service plan, except a plan that enters exclusively into specialized health care service plan contracts, and every disability insurer issuing policies on a groupwide basis, to provide acupuncture coverage under those terms and conditions as may be agreed upon by the parties.

Because a violation of this bill's requirements with respect to a health care service plan would be a crime, this bill would impose a state-mandated local program by creating a new crime.

Existing law authorizing a disability insurance policy to provide payment for acupuncture services requires that the disability insurance policy or contract expressly include acupuncture as a benefit in order

for a licensed or certified acupuncturist to be paid or reimbursed under the policy for his or her services.

This bill would delete the requirement conditioning the payment and reimbursement of a certified or licensed acupuncturist, for his or her services, on the express inclusion of acupuncture as a benefit in a disability insurance policy or contract. This bill would also make technical and conforming changes.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes.

The people of the State of California do enact as follows:

SECTION 1. Section 1373.10 of the Health and Safety Code is amended to read:

1373.10. (a) On and after January 1, 1985, every health care service plan, that is not a health maintenance organization or is not a plan that enters exclusively into specialized health care service plan contracts, as defined by subdivision ~~(n)~~ *(o)* of Section 1345, ~~which~~ *that* provides coverage for hospital, medical, or surgical expenses, shall offer coverage to group contract holders for expenses incurred as a result of treatment by holders of certificates under Section 4938 of the Business and Professions Code, under ~~such~~ terms and conditions as may be agreed upon between the health care service plan and the group contract holder.

~~A health care service plan is not required to offer the coverage provided by this section as part of any contract covering employees of a public entity.~~

~~(b) For the purposes of this section, "health maintenance organization" or "HMO" means a public or private organization, organized under the laws of this state, which does all of the following:~~

~~(1) Provides or otherwise makes available to enrolled participants health care services, including at least the following basic health care services: usual physician services, hospitalization,~~

~~laboratory, X-ray, emergency and preventive services, and out-of-area coverage.~~

~~(2) Is compensated, except for copayments, for the provision of basic health care services listed in paragraph (1) to enrolled participants on a predetermined periodic rate basis.~~

~~(3) Provides physician services primarily directly through physicians who are either employees or partners of the organization, or through arrangements with individual physicians or one or more groups of physicians, organized on a group practice or individual practice basis.~~

(b) On and after January 1, 2012, every health care service plan, that is not a plan that enters exclusively into specialized health care service plan contracts, as defined by subdivision (o) of Section 1345, that provides coverage for hospital, medical, or surgical expenses, shall provide coverage to group contract holders for expenses incurred as a result of treatment by holders of certificates under Section 4938 of the Business and Professions Code, under terms and conditions as may be agreed upon between the health care service plan and the group contract holder.

SEC. 2. Section 10127.3 of the Insurance Code is amended to read:

10127.3. *(a)* On and after January 1, 1985, every insurer issuing group disability insurance ~~which~~ *that* covers hospital, medical, or surgical expenses shall offer coverage for expenses incurred as a result of treatment by holders of certificates under Section 4938 of the Business and Professions Code, under ~~such~~ terms and conditions as may be agreed upon between the group policyholder and the insurer.

~~An insurer is not required to offer the coverage provided by this section as part of any policy covering employees of a public entity.~~

(b) On and after January 1, 2012, every insurer issuing group disability insurance that covers hospital, medical, or surgical expenses shall provide coverage for expenses incurred as a result of treatment by holders of certificates under Section 4938 of the Business and Professions Code, under terms and conditions as may be agreed upon between the group policyholder and the insurer.

SEC. 3. Section 10176 of the Insurance Code is amended to read:

10176. In disability insurance, the policy may provide for payment of medical, surgical, chiropractic, physical therapy, speech pathology, audiology, acupuncture, professional mental health, dental, hospital, or optometric expenses upon a reimbursement basis, or for the exclusion of any of those services, and provision may be made therein for payment of all or a portion of the amount of charge for these services without requiring that the insured first pay the expenses. The policy shall not prohibit the insured from selecting any psychologist or other person who is the holder of a certificate or license under Section 1000, 1634, 2050, 2472, 2553, 2630, 2948, 3055, or 4938 of the Business and Professions Code, to perform the particular services covered under the terms of the policy, the certificate holder or licensee being expressly authorized by law to perform those services.

~~If the insured selects any person who is a holder of a certificate under Section 4938 of the Business and Professions Code, a disability insurer or nonprofit hospital service plan shall pay the bona fide claim of an acupuncturist holding a certificate pursuant to Section 4938 of the Business and Professions Code for the treatment of an insured person only if the insured's policy or contract expressly includes acupuncture as a benefit and includes coverage for the injury or illness treated. Unless the policy or contract expressly includes acupuncture as a benefit, no person who is the holder of any license or certificate set forth in this section shall be paid or reimbursed under the policy for acupuncture.~~

Nor shall the policy prohibit the insured, upon referral by a physician and surgeon licensed under Section 2050 of the Business and Professions Code, from selecting any licensed clinical social worker who is the holder of a license issued under Section 4996 of the Business and Professions Code or any occupational therapist as specified in Section 2570.2 of the Business and Professions Code, or any marriage and family therapist who is the holder of a license under Section 4980.50 of the Business and Professions Code, to perform the particular services covered under the terms of the policy, or from selecting any speech-language pathologist or audiologist licensed under Section 2532 of the Business and Professions Code or any registered nurse licensed pursuant to Chapter 6 (commencing with Section 2700) of Division 2 of the Business and Professions Code, who possesses a master's degree

in psychiatric-mental health nursing and is listed as a psychiatric-mental health nurse by the Board of Registered Nursing or any advanced practice registered nurse certified as a clinical nurse specialist pursuant to Article 9 (commencing with Section 2838) of Chapter 6 of Division 2 of the Business and Professions Code who participates in expert clinical practice in the specialty of psychiatric-mental health nursing, or any respiratory care practitioner certified pursuant to Chapter 8.3 (commencing with Section 3700) of Division 2 of the Business and Professions Code to perform services deemed necessary by the referring physician, that certificate holder, licensee or otherwise regulated person, being expressly authorized by law to perform the services.

Nothing in this section shall be construed to allow any certificate holder or licensee enumerated in this section to perform professional mental health services beyond his or her field or fields of competence as established by his or her education, training, and experience. For the purposes of this section, "marriage and family therapist" means a licensed marriage and family therapist who has received specific instruction in assessment, diagnosis, prognosis, and counseling, and psychotherapeutic treatment of premarital, marriage, family, and child relationship dysfunctions that is equivalent to the instruction required for licensure on January 1, 1981.

An individual disability insurance policy, which is issued, renewed, or amended on or after January 1, 1988, *and* which includes mental health services coverage may not include a lifetime waiver for that coverage with respect to any applicant. The lifetime waiver of coverage provision shall be deemed unenforceable.

SEC. 4. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

O

Acupuncture Board

Proposed Regulations

Article 7.

Sponsored Free Health Care Events—Requirements for Exemption.

§1399.480. Definitions.

For the purposes of section 901 of the code:

(a) "Community-based organization" means a public or private nonprofit organization that is representative of a community or a significant segment of a community, and is engaged in meeting human, educational, environmental, or public safety community needs.

(b) "Out-of-state practitioner" means a person who is not licensed in California to engage in the practice of acupuncture but who holds a current valid license or certificate in good standing in another state, district, or territory of the United States to practice acupuncture.

NOTE: Authority cited: Sections 901 and 4933, Business and Professions Code. Reference: Section 901, Business and Professions Code.

§1400.1. Sponsoring Entity Registration and Recordkeeping Requirements.

(a) Registration. A sponsoring entity that wishes to provide, or arrange for the provision of, health care services at a sponsored event under section 901 of the code shall register with the board not later than 90 calendar days prior to the date on which the sponsored event is scheduled to begin. A sponsoring entity shall register with the board by submitting to the board a completed Form 901-A (01/2011), which is hereby incorporated by reference.

(b) Determination of Completeness of Form. The board may, by resolution, delegate to the Department of Consumer Affairs the authority to receive and process Form 901-A on behalf of the board. The board or its delegatee shall inform the sponsoring entity within 15 calendar days of receipt of Form 901-A in writing that the form is either complete and the sponsoring entity is registered or that the form is deficient and what specific information or documentation is required to complete the form and be registered. The board or its delegatee shall reject the registration if all of the identified deficiencies have

not been corrected at least 30 days prior to the commencement of the sponsored event.

(c) Recordkeeping Requirements. Regardless of where it is located, a sponsoring entity shall maintain at a physical location in California a copy of all records required by section 901 as well as a copy of the authorization for participation issued by the board to an out-of-state practitioner. The sponsoring entity shall maintain these records for a period of at least five years after the date on which a sponsored event ended. The records may be maintained in either paper or electronic form. The sponsoring entity shall notify the board at the time of registration as to the form in which it will maintain the records. In addition, the sponsoring entity shall keep a copy of all records required by section 901(g) of the code at the physical location of the sponsored event until that event has ended. These records shall be available for inspection and copying during the operating hours of the sponsored event upon request of any representative of the board.

(d) Requirement for Prior Board Approval of Out-of-State Practitioner. A sponsoring entity shall not permit an out-of-state practitioner to participate in a sponsored event unless and until the sponsoring entity has received written approval from the board.

(e) Report. Within 15 calendar days after a sponsored event has concluded, the sponsoring entity shall file a report with the board summarizing the details of the sponsored event. This report may be in a form of the sponsoring entity's choosing, but shall include, at a minimum, the following information:

(1) The date(s) of the sponsored event;

(2) The location(s) of the sponsored event;

(3) The type(s) and general description of all health care services provided at the sponsored event; and

(4) A list of each out-of-state practitioner granted authorization pursuant to this article who participated in the sponsored event, along with the license number of that practitioner.

NOTE: Authority cited: Sections 901 and 4933, Business and Professions Code. Reference: Section 901, Business and Professions Code.

§1400.2. Out-of-State Practitioner Authorization to Participate in Sponsored Event

(a) Request for Authorization to Participate. An out-of-state practitioner ("applicant") may request authorization from the board to participate in a sponsored event and provide such health care services at the sponsored event as would be permitted if the applicant were licensed by the board to provide those services. An applicant shall request authorization by submitting to the board a completed Form 901-B (01/2011), which is hereby incorporated by reference, accompanied by a non-refundable processing fee of $_____. The applicant shall also furnish either a full set of fingerprints or submit a Live Scan inquiry to establish the identity of the applicant and to permit the board to conduct a criminal history record check.

(b) Response to Request for Authorization to Participate. Within 20 calendar days of receiving a completed request for authorization, the board shall notify the sponsoring entity whether that request is approved or denied.

(c) Denial of Request for Authorization to Participate.

(1) The board shall deny a request for authorization to participate if:

(A) The submitted Form 901-B is incomplete and the applicant has not responded within 7 calendar days to the board's request for additional information.

[(B) The applicant has not met the following educational and experience requirements:

(i) ***
(ii) ***

(C) ***]

(D) The applicant has failed to comply with a requirement of this article or has committed any act that would constitute grounds for denial of an application for licensure by the board.

(E) The applicant does not possess a current valid license in good standing. The term "good standing" means the applicant:
(i) Has not been charged with an offense for any act substantially related to the practice for which the applicant is licensed by any public agency;
(ii) Has not entered into any consent agreement or been subject to an administrative decision that contains conditions placed upon the applicant's professional conduct or practice, including any voluntary surrender of license;
(iii) Has not been the subject of an adverse judgment resulting from the practice for which the applicant is licensed that

the board determines constitutes evidence of a pattern or negligence or incompetence.

(2) The board may deny a request for authorization to participate if:

(A) The request is received less than 20 calendars days before the date on which the sponsored event will begin.

(B) The applicant has been previously denied a request for authorization by the board to participate in a sponsored event.

(C) The applicant has previously had an authorization to participate in a sponsored event terminated by the board.

(D) The applicant has participated in [insert a number here] or more sponsored events during the 12 month period immediately preceding the current application.

[(E) ***]

(d) Appeal of Denial. An applicant requesting authorization to participate in a sponsored event may appeal the denial of such request by following the procedures set forth in section 4.

NOTE: Authority cited: Sections 144, 901 and 4933, Business and Professions Code. Reference: Section 901, Business and Professions Code.

§1400.3. Termination of Authorization and Appeal.

(a) Grounds for Termination. The Board may terminate an out-of-state practitioner's authorization to participate in a sponsored event for any of the following reasons:

(1) The out-of-state practitioner has failed to comply with any applicable provision of this article, or any applicable practice requirement or regulation of the board.

(2) The out-of-state practitioner has committed an act that would constitute grounds for discipline if done by a licensee of the board.

(3) The board has received a credible complaint indicating that the out-of-state practitioner is unfit to practice at the sponsored event or has otherwise endangered consumers of the practitioner's services.

(b) Notice of Termination. The board shall provide both the sponsoring entity and the out-of-state practitioner with a written notice of the termination,

including the basis for the termination. If the written notice is provided during a sponsored event, the board may provide the notice to any representative of the sponsored event on the premises of the event.

(c) Consequences of Termination. An out-of-state practitioner shall immediately cease his or her participation in a sponsored event upon receipt of the written notice of termination.

Termination of authority to participate in a sponsored event shall be deemed a disciplinary measure reportable to the national practitioner data banks. In addition, the board shall provide a copy of the written notice of termination to the licensing authority of each jurisdiction in which the out-of-state practitioner is licensed.

(d) Appeal of Termination. An out-of-state practitioner may appeal the board's decision to terminate an authorization in the manner provided by section 901(j)(2) of the code. The request for an appeal shall be considered a request for an informal hearing under the Administrative Procedure Act.

(e) Informal Conference Option. In addition to requesting a hearing, the out-of-state practitioner may request an informal conference with the executive officer regarding the reasons for the termination of authorization to participate. The executive officer shall, within 30 days from receipt of the request, hold an informal conference with the out-of-state practitioner. At the conclusion of the informal conference, the executive officer may affirm or dismiss the termination of authorization to participate. The executive officer shall state in writing the reasons for his or her action and mail a copy of his or her findings and decision to the out-of-state practitioner within ten days from the date of the informal conference. The out-of-state practitioner does not waive his or her request for a hearing to contest a termination of authorization by requesting an informal conference. If the termination is dismissed after the informal conference, the request for a hearing shall be deemed to be withdrawn.

NOTE: Authority cited: Sections 901 and 4933, Business and Professions Code. Reference: Section 901, Business and Professions Code.

REGISTRATION OF SPONSORING ENTITY UNDER BUSINESS & PROFESSIONS CODE SECTION 901

In accordance with California Business and Professions Code Section 901(d), a non-government organization administering an event to provide health care services to uninsured and underinsured individuals at no cost may include participation by certain health care practitioners licensed outside of California if the organization registers with the California licensing authorities having jurisdiction over those professions. This form shall be completed and submitted by the sponsoring organization **at least 60 calendar days prior to the sponsored event**. *Note that the information required by Business and Professions Code Section 901(d) must also be provided to the county health department having jurisdiction in each county in which the sponsored event will take place..*

[Only one form (per event) should be completed and submitted to the board/Department of Consumer Affairs. The Department of Consumer Affairs will forward a copy of the completed registration form to each of the licensing authorities indicated on this form.]

PART 1 – ORGANIZATIONAL INFORMATION

1. Organization Name: _____

2. Organization Contact Information (*use principal office address*):

_____ Address Line 1

_____ Address Line 2

_____ City, State, Zip

_____ County

_____ Phone Number of Principal Office

_____ Alternate Phone

_____ Website

Organization Contact Information in California (*if different*):

_____ Address Line 1

_____ Address Line 2

_____ City, State, Zip

_____ County

_____ Phone Number

_____ Alternate Phone

3. Type of Organization:

Is the organization operating pursuant to Section 501(c)(3) of the Internal Revenue Code? ____ Yes ____ No

If not, is the organization a community-based organization*?
____ Yes ____ No

Organization's Tax Identification Number _____

If a community-based organization, please describe the mission, goals and activities of the organization (*attach separate sheet(s) if necessary*): _____

* A "community based organization" means a public or private nonprofit organization that is representative of a community or a significant segment of a community, and is engaged in meeting human, educational, environmental, or public safety community needs.

PART 2 – RESPONSIBLE ORGANIZATION OFFICIALS

Please list the following information for each of the principal individual(s) who are the officers or officials of the organization responsible for operation of the sponsoring entity.

Individual 1:

Name	Title
Address Line 1	Phone
Address Line 2	Alternate Phone
City, State, Zip	E-mail address
County	

Individual 2:

Name	Title
Address Line 1	Phone
Address Line 2	Alternate Phone
City, State, Zip	E-mail address
County	

Individual 3:

Name	Title
Address Line 1	Phone
Address Line 2	Alternate Phone
City, State, Zip	E-mail address
County	

(Attach additional sheets if needed to list additional principal organizational individuals)

PART 3 – EVENT DETAILS

1. Name of event, if any: _____

2. Date(s) of event (not to exceed ten calendar days): _____

3. Location(s) of the event (be as specific as possible, including address):

_____
_____
_____
_____

4. Describe the intended event, including a list of all types of healthcare services intended to be provided (*attach additional sheet(s) if necessary*): _____

_____
_____
_____
_____
_____
_____

5. Attach a list of all out-of-state health care practitioners who you currently believe intend to apply for authorization to participate in the event. The list should include the name, profession, and state of licensure of each identified individual.

___ *Check here to indicate that list is attached.*

6. Please check each licensing authority that will have jurisdiction over an out-of-state licensed health practitioner who intends to participate in the event:

___ Acupuncture Board
___ Board of Behavioral Sciences
___ Board of Chiropractic Examiners
___ Dental Board
___ Physician Assistant Committee
___ Physical Therapy Board
___ Board of Podiatric Medicine
___ Board of Psychology

___ Dental Hygiene Committee
___ Medical Board
___ Naturopathic Medicine Committee
___ Board of Occupational Therapy
___ Board of Optometry
___ Osteopathic Medical Board
___ Board of Pharmacy
___ Board of Registered Nursing
___ Respiratory Care Board
___ Speech-Language Pathology, Audiology & Hearing Aid Dispensers Board
___ Veterinary Medical Board
___ Board of Vocational Nursing & Psychiatric Technicians

Note:

- Each individual out-of-state practitioner must request authorization to participate in the event by submitting an application (Form 901-B) to the applicable licensing Board/Committee.
- The organization will be notified in writing whether authorization for an individual out-of-state practitioner has been granted.
- I understand the recordkeeping requirements imposed by California Business and Professions Code Section 901 and Title 16, California Code of Regulations Section 1399.453 to maintain records both at the sponsored event and for five (5) years in California
- I understand that our organization must file a report with each applicable board/committee within fifteen (15) calendar days of the completion of the event.

This form, and any attachments, shall be submitted to:

Department of Consumer Affairs
Attn: Executive Office
1625 North Market Blvd.
Sacramento, CA 95834

Questions regarding the completion of this form should be directed to:

*****
Phone: *****
E-mail: *****

I certify under penalty of perjury that the information provided on this form and any attachments is true and current and that I am authorized to sign this form on behalf of the organization:

Name Printed _____ Title _____

Signature _____ Date _____

REQUEST FOR AUTHORIZATION TO PRACTICE WITHOUT A LICENSE AT A REGISTERED FREE HEALTH CARE EVENT

In accordance with California Business and Professions Code Section 901 any acupuncturist who is licensed/certified and in good standing in another state, district, or territory in the United States may request authorization from the Acupuncture Board (Board) to participate in a free health care event offered by a sponsoring entity, registered with the Board pursuant to Section 901, for a period not to exceed ten (10) days.

PART 1 - APPLICATION INSTRUCTIONS

An application must be complete and must be accompanied by all of the following:

- A processing fee of $_____, made payable to the board.
- A copy of each valid and current license and/or certificate authorizing the applicant to engage in the practice of [profession] issued by any state, district, or territory of the United States.
- A copy of a valid photo identification of the applicant issued by one of the jurisdictions in which the applicant holds a license or certificate to practice.
- [Boards shall list here any additional information required to be submitted with the application – this may include fingerprinting information, educational records, letter(s) of reference, list of work experience, etc.]

The board will not grant authorization until this form has been completed in its entirety, all required enclosures have been received by the board, and any additional information requested by the Board has been provided by the applicant and reviewed by the board, and a determination made to grant authorization.

The board shall process this request and notify the sponsoring entity listed in this form if the request is approved or denied within 20 calendar days of receipt. If the board requires additional or clarifying information, the board will contact you directly, but **written approval or denial of requests will be provided directly to the sponsoring entity**. It is the applicant's responsibility to maintain contact with the sponsoring entity.

PART 2 – NAME AND CONTACT INFORMATION

1. Applicant Name: _____
First Middle Last

2. Social Security Number: ____ - ___ - _____ Date of Birth: _____

3. Applicant's Contact Information:

Address Line 1	Phone
Address Line 2	Alternate Phone
City, State, Zip	E-mail address

4. Applicant's Employer : _____

Employer's Contact Information:

Address Line 1	Phone
Address Line 2	Facsimile
City, State, Zip	E-mail address (if available)

PART 3 – LICENSURE INFORMATION

1. Do you hold a current license, certification, or registration issued by a state, district, or territory of the United States authorizing the unrestricted practice of acupuncture in your jurisdiction(s)?

No ☐ If no, you are <u>not</u> eligible to participate as an out-of-state practitioner in the sponsored event.

Yes ☐ If yes, list every license, certificate, and registration authorizing you to engage in the practice of acupuncture in the following table. If there are not enough boxes to include all the relevant information please attach an addendum to this form. Please also attach a copy of each of your current licenses, certificates, and registrations.

State/ Jurisdiction	**Issuing Agency/Authority**	**License Number**	**Expiration Date**

2. Have you ever had a license or certification to practice acupuncture revoked or suspended?
___ Yes ___ No

3. Have you ever been subject to any disciplinary action or proceeding by a licensing body?
___ Yes ___ No

4. Have you ever allowed any license or certification to practice acupuncture to cancel or to remain in expired status without renewal?
___ Yes ___ No

5. If you answered "Yes" to any of questions 2-3, please explain (*attach additional page(s) if necessary*): _____

_____

_____

_____

_____

_____

PART 4 – SPONSORED EVENT

1. Name of non-profit or community-based organization hosting the free healthcare event (the "sponsoring entity"): _____

2. Name of event: _____

3. Date(s) & location(s) of the event: _____

_____

4. Date(s) & location(s) applicant will be performing healthcare services (if different):

_____

_____

5. Please specify the healthcare services you intend to provide: _____

_____

_____

_____

6. Name and phone number of contact person with sponsoring entity: _____

_____

PART 5 – ACKNOWLEDGMENT/CERTIFICATION

I, the undersigned, declare under penalty of perjury under the laws of the State of California and acknowledge that:

- I have not committed any act or been convicted of a crime constituting grounds for denial of licensure by the board.
- I am in good standing with the licensing authority or authorities of all jurisdictions in which I hold licensure and/or certification to practice [profession].
- I will comply with all applicable practice requirements required of licensed [profession]s and all regulations of the Board.
- In accordance with Business and Professions Code Section 901(i), I will only practice within the scope of my licensure and/or certification and within the scope of practice for California-licensed [profession]s.
- I will provide the services authorized by this request and Business and Professions Code Section 901 to uninsured and underinsured persons only and shall receive no compensation for such services.
- I will provide the services authorized by this request and Business and Professions Code Section 901 only in association with the sponsoring entity listed herein and only on the dates and at the locations listed herein for a period not to exceed 10 calendar days.
- I am responsible for knowing and complying with California law and practice standards while participating in a sponsored event located in California.
- Practice of a regulated profession in California without proper licensure and/or authorization may subject me to potential administrative, civil and/or criminal penalties.
- The Board may notify the licensing authority of my home jurisdiction and/or other appropriate law enforcement authorities of any potential grounds for discipline associated with my participation in the sponsored event.
- All information provided by me in this application is true and complete to the best of my knowledge. By submitting this application and signing below, I am granting permission to the Board to verify the information provided and to perform any investigation pertaining to the information I have provided as the board deems necessary.

_____ _____

Signature Date

Name Printed: _____

BILL NUMBER: AB 2699 CHAPTERED

BILL TEXT

CHAPTER 270
FILED WITH SECRETARY OF STATE SEPTEMBER 24, 2010
APPROVED BY GOVERNOR SEPTEMBER 23, 2010
PASSED THE SENATE AUGUST 30, 2010
PASSED THE ASSEMBLY AUGUST 31, 2010
AMENDED IN SENATE AUGUST 27, 2010
AMENDED IN SENATE AUGUST 2, 2010
AMENDED IN SENATE JULY 15, 2010
AMENDED IN ASSEMBLY MAY 12, 2010
AMENDED IN ASSEMBLY APRIL 26, 2010
AMENDED IN ASSEMBLY APRIL 14, 2010
AMENDED IN ASSEMBLY APRIL 5, 2010

INTRODUCED BY Assembly Member Bass

FEBRUARY 19, 2010

An act to amend Section 900 of, and to add and repeal Section 901 of, the Business and Professions Code, relating to healing arts.

LEGISLATIVE COUNSEL'S DIGEST

AB 2699, Bass. Healing arts: licensure exemption.

Existing law provides for the licensure and regulation of various healing arts practitioners by boards within the Department of Consumer Affairs. Existing law provides an exemption from these requirements for a health care practitioner licensed in another state who offers or provides health care for which he or she is licensed during a state of emergency, as defined, and upon request of the Director of the Emergency Medical Services Authority, as specified.

This bill would also provide, until January 1, 2014, an exemption from the licensure and regulation requirements for a health care practitioner, as defined, licensed or certified in good standing in another state or states, who offers or provides health care services for which he or she is licensed or certified through a sponsored event, as defined, (1) to uninsured or underinsured persons, (2) on a short-term voluntary basis, (3) in association with a sponsoring entity that registers with the applicable healing arts board, as defined, and provides specified information to the county health department of the county in which the health care services will be provided, and (4) without charge to the recipient or a 3rd party on behalf of the recipient, as specified. The bill would also require an exempt health care practitioner to obtain prior authorization to provide these services from the applicable licensing board, as defined, and to satisfy other specified requirements, including payment of a fee as determined by the applicable licensing board. The bill would require the applicable licensing board to notify the sponsoring entity, as defined, of the sponsored event whether the board approves or denies a request for authorization to provide these services within 20 days of receipt of the request. The bill would also prohibit a contract of liability insurance issued, amended, or renewed on or after January 1, 2011, from excluding coverage of these practitioners or a sponsoring entity for providing care under these

provisions.

Because this bill would expand the definition of certain crimes, the bill would create a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 900 of the Business and Professions Code is amended to read:

900. (a) Nothing in this division applies to a health care practitioner licensed in another state or territory of the United States who offers or provides health care for which he or she is licensed, if the health care is provided only during a state of emergency as defined in subdivision (b) of Section 8558 of the Government Code, which emergency overwhelms the response capabilities of California health care practitioners and only upon the request of the Director of the Emergency Medical Services Authority.

(b) The director shall be the medical control and shall designate the licensure and specialty health care practitioners required for the specific emergency and shall designate the areas to which they may be deployed.

(c) Health care practitioners shall provide, upon request, a valid copy of a professional license and a photograph identification issued by the state in which the practitioner holds licensure before being deployed by the director.

(d) Health care practitioners deployed pursuant to this chapter shall provide the appropriate California licensing authority with verification of licensure upon request.

(e) Health care practitioners providing health care pursuant to this chapter shall have immunity from liability for services rendered as specified in Section 8659 of the Government Code.

(f) For the purposes of this section, "health care practitioner" means any person who engages in acts which are the subject of licensure or regulation under this division or under any initiative act referred to in this division.

(g) For purposes of this section, "director" means the Director of the Emergency Medical Services Authority who shall have the powers specified in Division 2.5 (commencing with Section 1797) of the Health and Safety Code.

SEC. 2. Section 901 is added to the Business and Professions Code, to read:

901. (a) For purposes of this section, the following provisions apply:

(1) "Board" means the applicable healing arts board, under this division or an initiative act referred to in this division, responsible for the licensure or regulation in this state of the respective health care practitioners.

(2) "Health care practitioner" means any person who engages in acts that are subject to licensure or regulation under this division or under any initiative act referred to in this division.

(3) "Sponsored event" means an event, not to exceed 10 calendar

days, administered by either a sponsoring entity or a local government, or both, through which health care is provided to the public without compensation to the health care practitioner.

(4) "Sponsoring entity" means a nonprofit organization organized pursuant to Section 501(c)(3) of the Internal Revenue Code or a community-based organization.

(5) "Uninsured or underinsured person" means a person who does not have health care coverage, including private coverage or coverage through a program funded in whole or in part by a governmental entity, or a person who has health care coverage, but the coverage is not adequate to obtain those health care services offered by the health care practitioner under this section.

(b) A health care practitioner licensed or certified in good standing in another state, district, or territory of the United States who offers or provides health care services for which he or she is licensed or certified is exempt from the requirement for licensure if all of the following requirements are met:

(1) Prior to providing those services, he or she:

(A) Obtains authorization from the board to participate in the sponsored event after submitting to the board a copy of his or her valid license or certificate from each state in which he or she holds licensure or certification and a photographic identification issued by one of the states in which he or she holds licensure or certification. The board shall notify the sponsoring entity, within 20 calendar days of receiving a request for authorization, whether that request is approved or denied, provided that, if the board receives a request for authorization less than 20 days prior to the date of the sponsored event, the board shall make reasonable efforts to notify the sponsoring entity whether that request is approved or denied prior to the date of that sponsored event.

(B) Satisfies the following requirements:

(i) The health care practitioner has not committed any act or been convicted of a crime constituting grounds for denial of licensure or registration under Section 480 and is in good standing in each state in which he or she holds licensure or certification.

(ii) The health care practitioner has the appropriate education and experience to participate in a sponsored event, as determined by the board.

(iii) The health care practitioner shall agree to comply with all applicable practice requirements set forth in this division and the regulations adopted pursuant to this division.

(C) Submits to the board, on a form prescribed by the board, a request for authorization to practice without a license, and pays a fee, in an amount determined by the board by regulation, which shall be available, upon appropriation, to cover the cost of developing the authorization process and processing the request.

(2) The services are provided under all of the following circumstances:

(A) To uninsured or underinsured persons.

(B) On a short-term voluntary basis, not to exceed a 10-calendar-day period per sponsored event.

(C) In association with a sponsoring entity that complies with subdivision (c).

(D) Without charge to the recipient or to a third party on behalf of the recipient.

(c) The board may deny a health care practitioner authorization to practice without a license if the health care practitioner fails to

comply with the requirements of this section or for any act that would be grounds for denial of an application for licensure.

(d) A sponsoring entity seeking to provide, or arrange for the provision of, health care services under this section shall do both of the following:

(1) Register with each applicable board under this division for which an out-of-state health care practitioner is participating in the sponsored event by completing a registration form that shall include all of the following:

(A) The name of the sponsoring entity.

(B) The name of the principal individual or individuals who are the officers or organizational officials responsible for the operation of the sponsoring entity.

(C) The address, including street, city, ZIP Code, and county, of the sponsoring entity's principal office and each individual listed pursuant to subparagraph (B).

(D) The telephone number for the principal office of the sponsoring entity and each individual listed pursuant to subparagraph (B).

(E) Any additional information required by the board.

(2) Provide the information listed in paragraph (1) to the county health department of the county in which the health care services will be provided, along with any additional information that may be required by that department.

(e) The sponsoring entity shall notify the board and the county health department described in paragraph (2) of subdivision (d) in writing of any change to the information required under subdivision (d) within 30 calendar days of the change.

(f) Within 15 calendar days of the provision of health care services pursuant to this section, the sponsoring entity shall file a report with the board and the county health department of the county in which the health care services were provided. This report shall contain the date, place, type, and general description of the care provided, along with a listing of the health care practitioners who participated in providing that care.

(g) The sponsoring entity shall maintain a list of health care practitioners associated with the provision of health care services under this section. The sponsoring entity shall maintain a copy of each health care practitioner's current license or certification and shall require each health care practitioner to attest in writing that his or her license or certificate is not suspended or revoked pursuant to disciplinary proceedings in any jurisdiction. The sponsoring entity shall maintain these records for a period of at least five years following the provision of health care services under this section and shall, upon request, furnish those records to the board or any county health department.

(h) A contract of liability insurance issued, amended, or renewed in this state on or after January 1, 2011, shall not exclude coverage of a health care practitioner or a sponsoring entity that provides, or arranges for the provision of, health care services under this section, provided that the practitioner or entity complies with this section.

(i) Subdivision (b) shall not be construed to authorize a health care practitioner to render care outside the scope of practice authorized by his or her license or certificate or this division.

(j) (1) The board may terminate authorization for a health care practitioner to provide health care services pursuant to this section

for failure to comply with this section, any applicable practice requirement set forth in this division, any regulations adopted pursuant to this division, or for any act that would be grounds for discipline if done by a licensee of that board.

(2) The board shall provide both the sponsoring entity and the health care practitioner with a written notice of termination including the basis for that termination. The health care practitioner may, within 30 days after the date of the receipt of notice of termination, file a written appeal to the board. The appeal shall include any documentation the health care practitioner wishes to present to the board.

(3) A health care practitioner whose authorization to provide health care services pursuant to this section has been terminated shall not provide health care services pursuant to this section unless and until a subsequent request for authorization has been approved by the board. A health care practitioner who provides health care services in violation of this paragraph shall be deemed to be practicing health care in violation of the applicable provisions of this division, and be subject to any applicable administrative, civil, or criminal fines, penalties, and other sanctions provided in this division.

(k) The provisions of this section are severable. If any provision of this section or its application is held invalid, that invalidity shall not affect other provisions or applications that can be given effect without the invalid provision or application.

(l) This section shall remain in effect only until January 1, 2014, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2014, deletes or extends that date.

SEC. 3. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

PENDING SCHOOL APPLICATIONS

Board Meeting

February 24, 2011

School	Application Received	Current Status
Nine Star University (Sunnyvale, CA)	1st application: 10/2008 2nd application: 10/2010	**01/12/2009:** Completed application review & requested additional information from school **04/6/2009:** Reviewed new material and requested additional curriculum information from school **04/27/2009:** Completed curriculum review – program does not meet CAB requirements. Letter sent to inform school of deficiencies. **07/14/2009:** New curriculum reviewed and found compliant; application review complete, site visit scheduled for 10/21. **11/2/2009:** Site visit conducted by Janelle Wedge & Cathy Hardin Schau **01/27/2011:** Site visit conducted by Janelle Wedge and Benjamin Bodea
Institute of Clinical Acupuncture and Oriental Medicine (Honolulu, HI)	1st application: 01/2009	**04/22/2009:** Completed application review & requested additional information from school **07/16/2009:** Application review completed. Site visit needed.
Hongik International University (Los Angeles, CA)	1st application: 02/2009	**08/24/2009:** Completed application review & requested additional information from school **11/10/2009:** Sent 2nd request for information
Health Medicine University (Palo Alto, CA)	1st application: 09/2009	**Review pending**
Phoenix Institute of Herbal Medicine & Acupuncture (Phoenix, AZ)	1st application: 09/2009	**Review pending board decision regarding out of state site visits**
Golden State University (Downey)	1st application: 12/2009	**02/2/2011**: Site visit conducted by Janelle Wedge and Benjamin Bodea.
Oikos University (Oakland, CA)	1st application: 06/2010	**Review pending**
Finger Lakes School of Acupuncture & Oriental Medicine (New York)	1st application: 02/2011	**Review Pending**

STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

STATE AND CONSUMER SERVICES AGENCY • GOVERNOR EDMUND G. BROWN JR.
ACUPUNCTURE BOARD
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MEMORANDUM

DATE	February 15, 2011
TO	Acupuncture Board Members
FROM	Benjamin Bodea, Education Coordinator Janelle Wedge, Executive Officer
SUBJECT	**School Site Visit & Application Review: Nine Star University of Health Sciences, Master of Science in Orinetal Medicine (MSOM) Program**

On January 27, 2011, Janelle Wedge and Benjamin Bodea conducted a site visit of Nine Star University of Health Sciences (NSUHS), which is located at 441 DeGuigne Drive, #201, in Sunnyvale, CA.

Prior to the on-site visit, staff conducted extensive reviews of the school's application and supplemental materials including course outlines, faculty resumes, school catalog, and financial summaries. The on-site visit consisted of the following:

- Tour of the facility
- Review of student and faculty files
- Tour and review of clinic
- Interview with President and CEO, Philip Yang, and administrator Carol Chen.

School History and Facility Information

Nine Star University of Health Sciences (NSUHS), was incorporated as a non-profit organization on May 25, 2007. The school began operations on September 2, 2008. NSUHS has applied to the new Bureau for Private Postsecondary Education for school approval and is awaiting their approval. This has been verified with the Deputy Bureau Chief.

NSUHS's first application for program approval was disapproved by the Board at their August 2010 board meeting. NSUHS took steps to correct their deficiencies and reapplied for program approval in October 2010.

Mr. Yang is the owner of the building in which NSUHS is housed. The school's facilities take up three of the building's suites for a total of 10,921 square feet. The facilities include 10 rooms that can be used for classroom space with each room seating between 15-20 people, eight clinic rooms, an herb dispensary, a reception area, faculty and administrative offices, a computer lab, an event center that can hold up to 150 people, and a library.

The clinic rooms each have space for one or two treatment beds. All of the treatment rooms do contain appropriate disposal containers for biohazard and sharps waste disposal. During our tour of the clinic, Mr. Yang indicated that he is the only acupuncturist currently in practice there, and his is the only license we saw displayed in the clinic.

The large event center on the lower floor of the facility is currently used for continuing education classes, large school events, and weekly community tai chi classes.

The library is housed on the second floor near the classrooms with easy access by the students. The library houses approximately 2,600 books (1,300 in English and 1,300 in Chinese) and journal volumes. This is a significant expansion since the Board conducted it's first site visit.

Admission Requirements & Student Population

At the time of the school's opening, 10 students were enrolled in the MSOM program. Since September 2008, enrollment has increased to a total of 25 students. Nineteen of those students are waiting to begin their clinic training.

During the original site visit in November 2009, the Board had noted that about half of the student files did not contain official transcripts to verify the completion of prerequisite requirements. However, during our most recent site visit, all student files were neatly organized and contained all required documents.

Program Curriculum

NSUHS operates on a trimester system and grants a Master of Science in Oriental Medicine upon successful completion of the program. The program's required curriculum includes 2,475 hours of didactic training and 960 hours of clinical training for a total requirement of 3,435 hours. In the initial application submitted by NSUHS in 2009, the curriculum failed to comply with both the minimum hours and subject matter requirements set forth in the CAB regulations. However, it appears the administration has carefully thought out the new syllabi for all of the classes offered. After being notified of these deficiencies, the school administration submitted new syllabi for all of the classes offered. The new syllabi and course descriptions are in compliance with the regulations.

NSUHS requires all applicants for admission for whom English is not a native language to submit an official copy of their TOEFL score. The minimum required TOEFL score is 55 iBT.

NSUHS offers its program in two languages: English and Chinese. Currently there are only students in the Chinese language program. The school previously had two students in the English language program, but one transferred to another school so they could start their clinic and the other student is not taking classes this trimester.

Faculty

NSUHS employs 16 faculty members, 13 of whom are licensed acupuncturists in California. All faculty files appeared complete and orderly. In general, all faculty members appear qualified for the courses they instruct.

Finances

NSUHS has been in operation for two years. During the 2008 fiscal year, the majority of funding came from an $85,000 loan and donations to the school. The schools main income now is from student tuition. From 2008 to 2009, tuition income has more than quadrupled. The school has not actively recruited students until such time as they receive Board approval. It is anticipated that upon Board approval enrollment will double and tuition and clinic income will significantly increase.

Conclusions

NSUHS has made numerous improvements, including a well-thought out Mission Statement with education objectives, standardized syllabus, faculty, student and clinic handbooks, and a restructured Board of Directors.

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MEMORANDUM

DATE	February 22, 2011
TO	Acupuncture Board Members
FROM	Benjamin Bodea, Education Coordinator Janelle Wedge, Executive Officer
SUBJECT	**School Site Visit & Application Review: Golden State University (GSU), Master of Science in Oriental Medicine (MSOM) Program**

On February 2, 2011, Janelle Wedge and Benjamin Bodea conducted a site visit of Golden State University (GSU), which is located at 9047 E. Florence Avenue, #L, Downey, CA.

Prior to the on-site visit, staff conducted extensive reviews of the school's application and supplemental materials including course outlines, faculty resumes, school catalog, and financial summaries. The on-site visit consisted of the following:

- Tour of the facility
- Review of student and faculty files
- Tour and review of clinic
- Interview with GSU President and Director Sunny Kim.

School History and Facility Information

Golden State University, Inc. was incorporated on June 23, 2008. The school enrolled its first student on July 2006.

GSU received initial approval to grant degrees from the former Bureau of Private Postsecondary and Vocational Education in April 2006 and has applied to the new Bureau for Private Postsecondary Education for school approval and is awaiting their approval.

The school's facilities take up approximately 2,000 square feet (800 sq. ft. for the clinic and 1,200 sq. ft. for the classroom and library). The facilities include 2 classrooms with each room seating approximately 10 people, library, 3 small clinic rooms, an herb dispensary, a reception area, and an administrative offices.

The clinic rooms are very small and each has space for one treatment bed. All of the treatment rooms do contain appropriate disposal containers for biohazard and sharps waste disposal. However, none of the treatment rooms have sinks with hot and cold running water but there is a restroom down the hall with hot and cold running water. During our tour of the clinic, Ms. Kim indicated that she is the only acupuncturist currently in practice there, and hers is the only license we saw displayed in the clinic.

The library is housed near the classrooms and houses approximately 203 books and journal volumes.

The school has an herb dispensary in the clinic area with approximately 250 individual herbs.

Admission Requirements & Student Population

The school currently has four students enrolled in the MSOM program. During the site visit all student files were carefully reviewed and appeared to contain all required documents.

Program Curriculum

GSU operates on a quarter system and grants a Master of Science in Oriental Medicine upon successful completion of the program. The program's required curriculum includes 2,250 hours of didactic training, and 960 hours of clinical training for a total requirement of 3,210 hours. GSU's curriculum complies with the Board regulations in hours and content area. GSU's program is only offered in the Korean language.

Faculty

GSU currently has 6 faculty members employed for this quarter and employment agreements with several others for future employment. In general, all faculty members appear qualified for the courses they instruct.

Finances

GSU has listed their major income source is from the operation of their clinic. The Board was not provided with actual audited financial statements, however, GSU states that the clinic brought in over $78,000 in three quarters in 2009 with tuition only generating approximately $4,000 in the same period. Currently students are only paying half tuition until such time as the school receives approval. During our site visit we were informed that the clinic only sees approximately 3 patients a day.

Conclusions

GSU is an extremely small school with not a lot of room for expansion.

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STATE OF CALIFORNIA
DEPARTMENT OF CONSUMER AFFAIRS

STATE AND CONSUMER SERVICES AGENCY • GOVERNOR EDMUND G. BROWN JR.
ACUPUNCTURE BOARD
444 N. 3rd Street, Suite 260, Sacramento, CA 95811
P (916) 445-3021 F (916) 445-3015 www.acupuncture.ca.gov

DATE	February 17, 2011
TO	All Board Members
FROM	Kristine Brothers Enforcement Coordinator
SUBJECT	**Enforcement Update for July 1, 2010 to January 31, 2011**

COMPLAINTS/CONVICTIONS & ARRESTS

DCA Category	Received	Closed/Referred to Investigation
Unprofessional Conduct	41	41
Unlicensed/Unregistered	12	13
Criminal Charges/Convictions	56	56
Sexual Misconduct	1	1
Fraud	7	7
Non-jurisdictional	9	8
Incompetence/Negligence	7	7
Unsafe/Unsanitary Conditions	3	3
Other	2	2
Substance Abuse/Drug & Mental/Physical Impairment	2	1
Discipline by Another State Agency	2	2
Total	**142**	**141**
Average Intake Time: 10 days		

*INVESTIGATIONS

DCA Category	Initiated	Pending	Closed
Unprofessional Conduct	38	15	47
Unlicensed/Unregistered	13	9	16
Criminal Charges/Convictions	54	29	57
Sexual Misconduct	1	5	3
Fraud	6	9	4
Non-jurisdictional	3	1	2
Incompetence/Negligence	7	12	6
Unsafe/Unsanitary Conditions	3	3	4
Other	1	1	1
Substance Abuse/Drug & Mental/Physical Impairment	2	2	0
Discipline by Another State Agency	2	1	4
Total	**130**	**87**	**144**

*Includes formal investigations conducted by DOI and desk investigations conducted by staff

DISCIPLINARY ACTIONS

Requested	**14**
Pending	**19**
Accusation/SOI Filed	**13**
Closed	**11**
Revoked	1
Voluntary Surrender	4
Probation	5
License Denied	1
Avg. Overall Process Time	**481 days**
Open Probation Cases	**24**

CE AUDITS (September 1, 2009 thru February 17, 2011)

Audits Conducted by Education	**130**
Audits Referred to Enforcement	52
Audits Pending Education's Review	12
Audits Pending Enforcement's Review	0
Citations Issued to Licensees	**37**
Citations Issued to Providers	**3**

*31% of CE audits resulted in citations

Violation Frequency Breakdown for Licensees

CCR 1399.489(a) - Failure to meet required CE or exceeds 5 hrs in Cat. 2	23
CCR 1399.489(b) - Exceeds 50% of req'd CE for distance education	2
CCR 1399.489(c) - Misrepresents completion or failure to sign statement	14
CCR 1399.489(e) - Failure to provide records in response to an audit	11

Violation Frequency Breakdown for Providers

CCR 1399.484(a) - Offering a course for CE without Board's approval	2
CCR 1399.484(e) - Failure to submit application for content changes	1
CCR 1399.482(d) - Failure to include all req'd information on CE cert.	1

Note: Some audits result in several violations

CPEI Monthly Report to DCA
July 2010 thru January 2011

	July	Aug	Sep	Oct	Nov	Dec	Jan	Average (to-date)	Total (to-date)
Complaints									
Received	9	6	19	10	18	14	10	12.3	86.0
Closed	0	1	1	3	1	2	1	1.3	9.0
Referred to INV	7	6	7	18	17	12	9	10.9	76.0
Avg Time to Close	6	9	11	14	8	9	8	9.3	65.0
Pending	4	3	14	3	3	3	3	4.7	33.0
Convictions / Arrests									
CONV Received	9	7	7	5	4	10	14	8.0	56.0
CONV Closed	10	4	7	6	4	12	13	8.0	56.0
Avg Time to Close	6	9	10	9	6	9	8	8.1	57.0
CONV Pending	1	4	4	3	3	1	2	2.6	18.0
Desk Investigations									
DESK Opened	17	8	12	23	19	21	20	17.1	120.0
DESK Closed	12	17	15	20	30	21	16	18.7	131.0
DESK Average	139	83	181	110	91	148	88	120.0	840.0
DESK Pending	62	60	55	55	43	43	47	52.1	365.0
Sworn Investigation									
Opened	5	4	2	5	5	5	3	4.1	29.0
Closed	6	3	2	6	0	3	1	3.0	21.0
Avg days to close	458	767	708	422	0	370	512	462.4	3237.0
Pending	30	32	32	31	36	38	40	34.1	239.0
All Investigations									
Closed	18	20	17	26	30	24	17	21.7	152.0
Avg days to close	246	186	243	178	91	176	113	176.1	1233.0
Pending	92	92	88	86	79	81	87	86.4	605.0
Enforcement Actions									
Cases Referred	5	3	2	2	0	2	0	2.0	14.0
Cases Pending	22	25	25	23	21	19	19	22.0	154.0
SOIs Filed	1	1	1	2	0	0	0	0.7	5.0
Accusations Filed	3	2	2	3	0	1	0	1.6	11.0
Proposed/Default Decisions	1	0	1	1	0	1	0	0.6	4.0
Stipulations	2	0	1	1	1	1	1	1.0	7.0
Disciplinary Orders									
Final Orders	3	0	2	2	1	2	1	1.6	11.0
Avg Days to Complete	553	0	706	363	550	296	198	380.9	2666.0
Citations									
Citations Issued	0	11	7	0	7	13	0	5.4	38.0
Avg Days to Complete	0	107	346	0	3	166	0	88.9	622.0

Department of Consumer Affairs

Acupuncture Board

Performance Measures

Q1 Report *(July - Sept 2010)*

To ensure stakeholders can review the Board's progress in meeting its enforcement goals and targets, we have developed a transparent system of performance measurement.

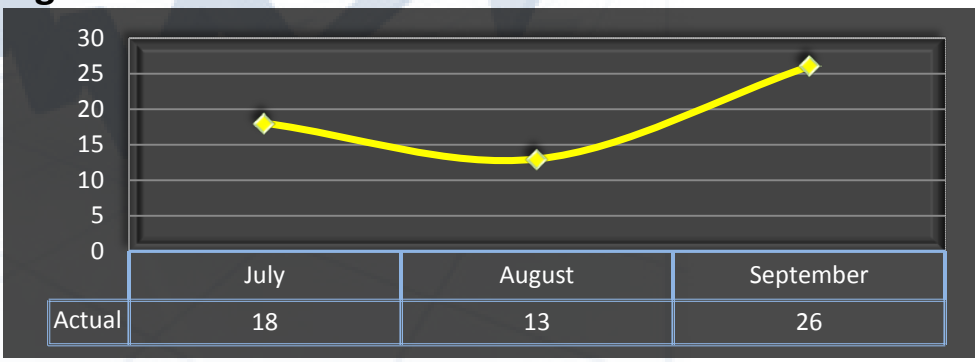
These measures will be posted publicly on a quarterly basis. In future reports, additional measures, such as consumer satisfaction and complaint efficiency, will also be added. These measures are being collected internally and will be released once sufficient data is available.

Volume

Number of complaints received.*

Q1 Total: 57 ***(Complaints: 34 Convictions: 23)***

Q1 Average: 19

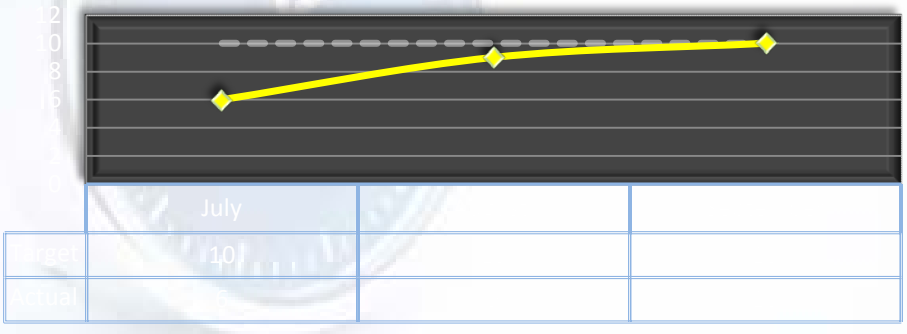


Intake

Average cycle time from complaint receipt, to the date the complaint was assigned to an investigator.

Target: 10 Days

Q1 Average: 8 Days



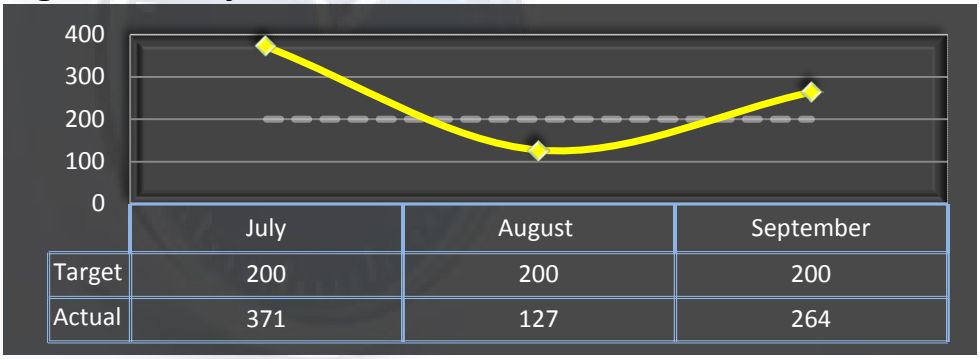
***"Complaints" in these measures include complaints, convictions, and arrest reports.**

Intake & Investigation

Average cycle time from complaint receipt to closure of the investigation process. Does <u>not</u> include cases sent to the Attorney General or other forms of formal discipline.

Target: 200 Days

Q1 Average: 221 Days



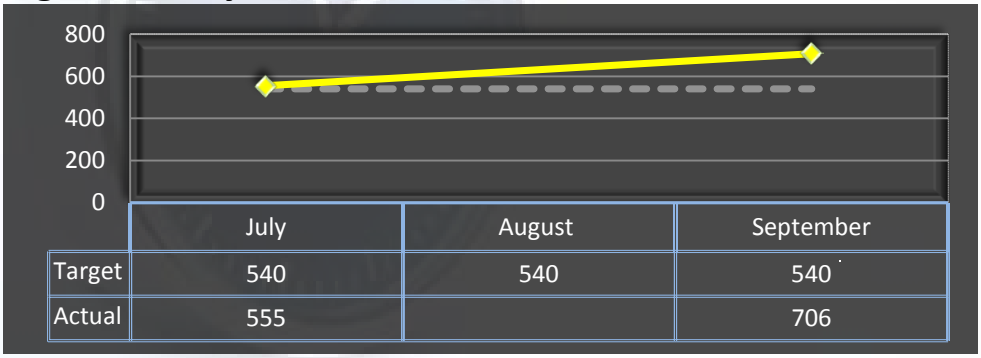
	July	August	September
Target	200	200	200
Actual	371	127	264

Formal Discipline

Average cycle time from complaint receipt to closure, for cases sent to the Attorney General or other forms of formal discipline.

Target: 540 Days

Q1 Average: 615 Days



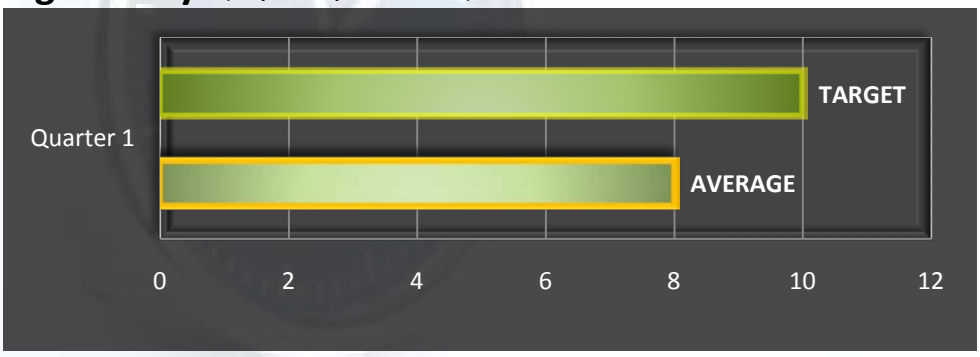
	July	August	September
Target	540	540	540
Actual	555		706

Probation Intake

Average number of days from monitor assignment, to the date the monitor makes first contact with the probationer.

Target: 10 Days

Q1 Average: 8 Days **(only 1 data point available)**

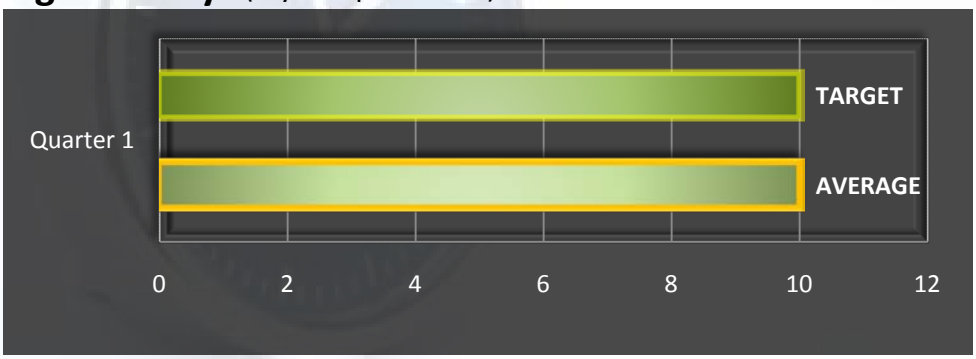


Probation Violation Response

Average number of days from the date a violation of probation is reported, to the date the assigned monitor initiates appropriate action.

Target: 10 Days

Q1 Average: 10 Days (only 1 data point available)



Department of Consumer Affairs

Acupuncture Board

Performance Measures

Q2 Report *(October - December 2010)*

To ensure stakeholders can review the Board's progress in meeting its enforcement goals and targets, we have developed a transparent system of performance measurement. These measures will be posted publicly on a quarterly basis.

In future reports, the Department will request additional measures, such as consumer satisfaction. These measures are being collected internally and will be released once sufficient data is available.

Volume

Number of complaints and convictions received.

Q2 Total: 61

Complaints: 42 Convictions: 19

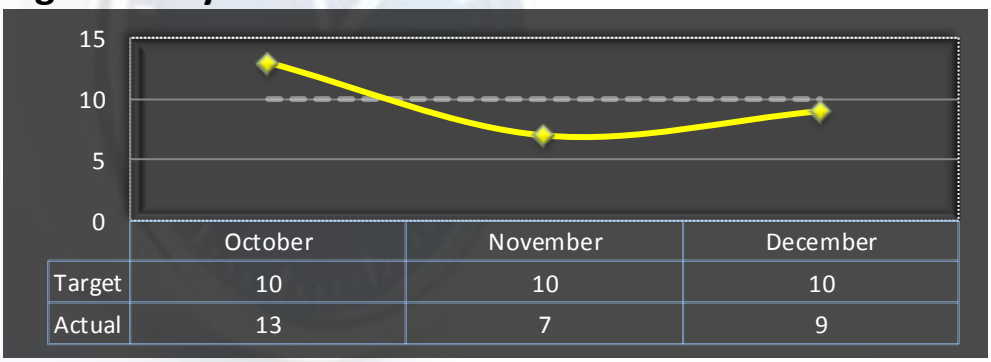
Q2 Monthly Average: 20

Intake

Average cycle time from complaint receipt, to the date the complaint was assigned to an investigator.

Target: 10 Days

Q2 Average: 10 Days



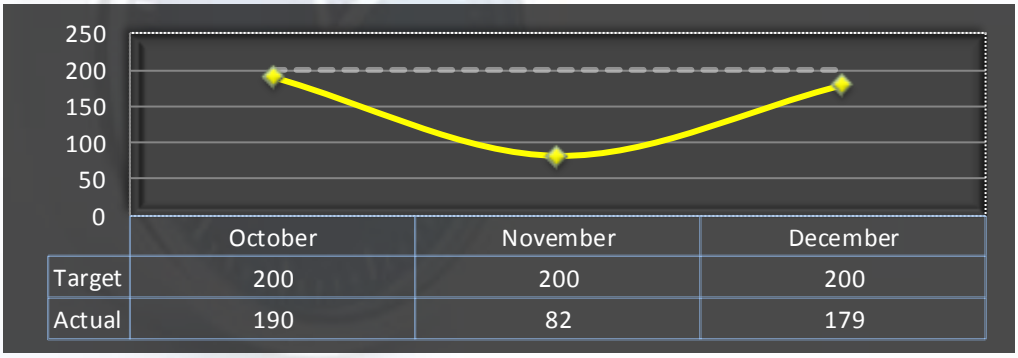
	October	November	December
Target	10	10	10
Actual	13	7	9

Intake & Investigation

Average cycle time from complaint receipt to closure of the investigation process. Does not include cases sent to the Attorney General or other forms of formal discipline.

Target: 200 Days

Q2 Average: 146 Days



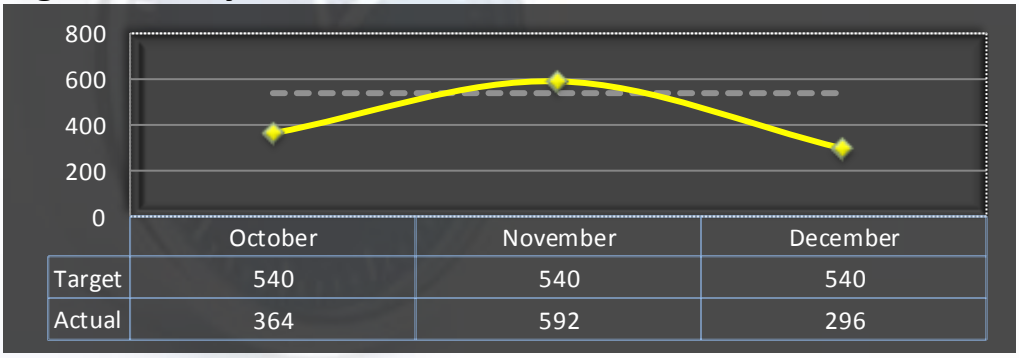
	October	November	December
Target	200	200	200
Actual	190	82	179

Formal Discipline

Average number of days to complete the entire enforcement process for cases resulting in formal discipline. (Includes intake and investigation by the Board, and prosecution by the AG)

Target: 540 Days

Q2 Average: 374 Days



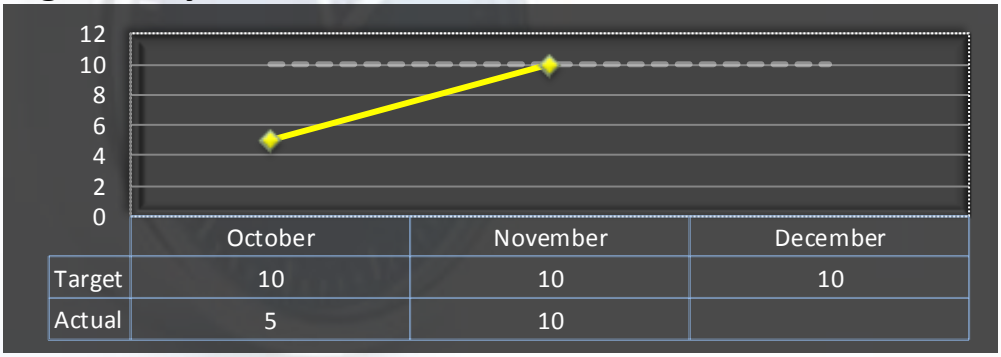
	October	November	December
Target	540	540	540
Actual	364	592	296

Probation Intake

Average number of days from monitor assignment, to the date the monitor makes first contact with the probationer.

Target: 10 Days

Q2 Average: 7 Days



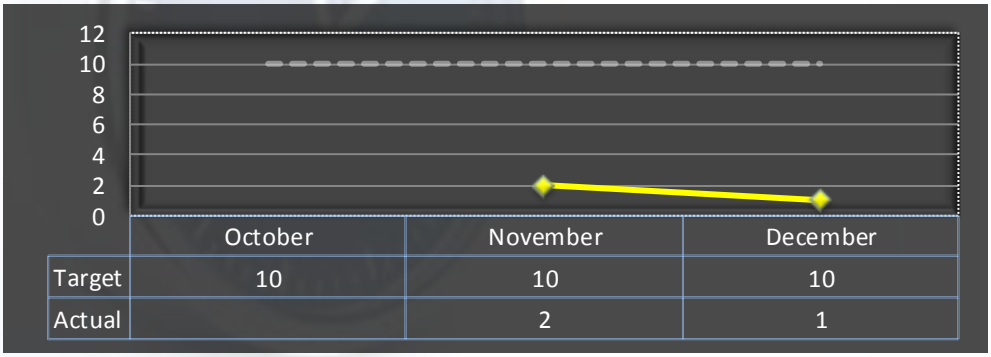
	October	November	December
Target	10	10	10
Actual	5	10	

Probation Violation Response

Average number of days from the date a violation of probation is reported, to the date the assigned monitor initiates appropriate action.

Target: 10 Days

Q2 Average: 1 Day



	October	November	December
Target	10	10	10
Actual		2	1

Trigger Point Dry Needling

Jan Dommerholt, PT, MPS, FAAPM
Orlando Mayoral del Moral, PT
Christian Gröbli, PT

Abstract: Trigger point dry needling is a treatment technique used by physical therapists around the world. In the United States, trigger point dry needling has been approved as within the scope of physical therapy practice in a growing number of states. There are several dry needling techniques, based on different models, including the radiculopathy model and the trigger point model, which are discussed here in detail. Special attention is paid to the clinical evidence for trigger point dry needling and the underlying mechanisms. Comparisons with injection therapy and acupuncture are reviewed. Trigger point dry needling is a relatively new technique used in combination with other physical therapy interventions.

Key Words: Myofascial Pain, Trigger Point, Acupuncture, Injection, Physical Therapy

Trigger point dry needling (TrP-DN), also referred to as intramuscular stimulation (IMS), is an invasive procedure in which an acupuncture needle is inserted into the skin and muscle. As the name implies, TrP-DN is directed at myofascial trigger points (MTrPs), which are defined as "hyperirritable spots in skeletal muscle that are associated with a hypersensitive palpable nodule in a taut band"[1]. Physical therapists around the world practice TrP-DN as part of their clinical practice and use the technique in combination with other physical therapy interventions. TrP-DN falls within the scope of physical therapy practice in many countries, including Canada, Chile, Ireland, the Netherlands, South Africa, Spain, and the United Kingdom. In 2002, two Dutch medical courts ruled that TrP-DN is within the scope of physical therapy practice in the Netherlands even though the Royal Dutch Physical Therapy Association has expressed the opinion that TrP-DN should not be part of physical therapy practice[2-4]. Of the approximately 9,000 physical therapists in South Africa, over 75% are estimated to employ the technique at least once daily (Stavrou, personal communication, 2006). Physical therapy continuing education programs in TrP-DN in Ireland, Switzerland, and Spain are popular among physical therapists. In Spain, several universities offer academic and specialist certification programs featuring TrP-DN as an integral component of invasive physical therapy[5].

In the United States (US) and Australia, TrP-DN is not commonly included in physical therapy entry-level educational curricula or post-graduate continuing education programs. Relatively few physical therapists in those two countries have received training in and employ the technique. The only known US physical therapy academic program that includes course work in TrP-DN is the entry-level doctorate of physical therapy curriculum at Georgia State University (Donnelly, personal communica-

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The Journal of Manual & Manipulative Therapy
Vol. 14 No. 4 (2006), E70 - E87

tion, 2006). However, the physical therapy state boards of Colorado, Georgia, Kentucky, Maryland, New Hampshire, New Mexico, South Carolina, and Virginia have determined in recent years that TrP-DN does fall within the scope of physical therapy in those states. Several other state boards are currently reviewing whether dry needling should fall within the scope of physical therapy practice, and the Director of Regulations of the State of Colorado has issued a specific "Director's Policy on Intramuscular Stimulation" (Table 1)[6].

Table 1: Colorado Physical Therapy Licensure; Policies of the Director; Director's Policy on Intramuscular Stimulation or IMS (Williams T. *Colorado Physical Therapy Licensure Policies of the Director; Policy 3 – Director's Policy on Intramuscular Stimulation*. Denver, CO: State of Colorado, Department of Regulatory Agencies, 2005).

1	IMS is a physical intervention that uses dry needles to stimulate trigger points, diagnose and treat neuromuscular pain and functional movement deficits
2	IMS requires an examination and diagnosis, and it treats specific anatomic entities selected according to physical signs
3	IMS is not considered an entry-level skill
4	Physical therapists receive substantial training and have sufficient knowledge in the areas of reducing the incidence and severity of physical disability, movement dysfunction, bodily malfunction, and pain
5	There is substantial medical literature on IMS that has been subjected to peer review
6	Seven states (Georgia, Kentucky, Maryland, New Mexico, New Hampshire, South Carolina, and Virginia) have found IMS to be within the scope of physical therapy as of this Policy's adoption date
7	The Director expects physical therapists to obtain the necessary training prior to using IMS
8	The Director determines that IMS falls within the scope of physical therapy as defined in section 12-41-103(6), C.R.S., and may be independently practiced by Colorado-licensed physical therapists

On the other hand, the Tennessee Board of Occupational and Physical Therapy concluded in 2002 that TrP-DN is not an acceptable physical therapy technique. The decision of the Tennessee Board was "based on the need for education and training" or in other words, the realization that TrP-DN is not commonly included in the physical therapy curricula of US academic programs[5,7]. Some state laws have defined the practice of physical therapy as non-invasive, which would implicitly put TrP-DN outside the scope of physical therapy in those states. For example, the Hawaii Physical Therapy Practice Act specifies that physical therapists not be allowed to penetrate the skin[8]. The definition of the practice of physical therapy according to the 2006 Florida Statutes states that among others, the practice of physical therapy "means the performance of acupuncture only upon compliance with the criteria set forth by the Board of Medicine, when no penetration of the skin occurs"[9]. Whether TrP-DN would be considered as falling under this peculiar definition has not been contested, and the Florida Statutes do not provide any guidelines as to how to perform acupuncture without penetration of the skin[9].

The introduction of TrP-DN to American physical therapists shares many similarities with the introduction of manual therapy. When during the 1960s, Paris expressed his interest in manual therapy, he experienced considerable resistance, not only from academia but also from employers, the American Physical Therapy Association (APTA), and even from Dr. Janet Travell[10]. Paris reported that in 1966, Dr. Travell blocked his membership in the North American Academy of Manipulative Medicine, an organization she had founded with Dr. John Mennell, on the grounds that "manipulation is a diagnostic and therapeutic tool to be reserved for physicians only"[10]. Similarly, the 2002 rejection of TrP-DN by the Tennessee

Board of Occupational and Physical Therapy was in part based on the testimony of an academic expert witness[7]. In 2006, the APTA omitted an educational activity about physical therapy and dry needling from the tentative agenda of its annual conference, while the Royal Dutch Physical Therapy Association upheld the opinion that TrP-DN should not fall within the scope of physical therapy practice. In October 2006, the Virginia Board of Physical Therapy heard arguments from a physician organization against physical therapists using TrP-DN. To the contrary, physical therapists in South Africa are allowed to perform botulinum toxin injections in the management of persons with MTrPs. Within the context of autonomous physical therapy practice, TrP-DN does seem to fit the current practice model in spite of the reservations of other disciplines and some physical therapy professional organizations.

In order to practice TrP-DN, physical therapists need to be able to demonstrate competence or adequate training in the technique and that they practice in a jurisdiction where TrP-DN is considered within the scope of physical therapy practice. Many country and state physical therapy statutes address the issue of competence by including language such as this: "physical therapists shall not perform any procedure or function which they are by virtue of education or training not competent to perform"[5]. Obviously, physical therapists employing TrP-DN must have excellent knowledge of anatomy and be very familiar with its indications, contraindications, and precautions. This article provides an overview of TrP-DN in the context of contemporary physical therapy practice.

Dry Needling Techniques

Because dry needling techniques emerged empirically, different schools and conceptual models have been developed, including the radiculopathy model, the MTrP model, and the spinal segmental sensitization model[1,5,11-13]. In addition, there are other less common needling approaches, such as neural acupuncture and automated or electrical twitch-obtaining intramuscular stimulation[14-22]. In neural acupuncture, acupuncture points are infiltrated with lidocaine for the treatment of myofascial pain[14,15]. A medical specialist, Dr. Jennifer Chu, developed electrical twitch-obtaining intramuscular stimulation; this approach combines aspects of the radiculopathy model with the trigger point model[16-23].

The radiculopathy model will be reviewed briefly, while the MTrP model will be discussed in detail. The spinal segmental sensitization model and neural acupuncture are not included in this article due to their exclusive use of injections, which are outside the scope of physical therapy practice in most jurisdictions[5,12].

Another classification is based on the depth of the needle insertion and distinguishes superficial dry needling (SDN) and deep dry needling (DDN)[24,25]. Examples of SDN include Baldry's SDN approach and Fu's Subcutaneous Needling, which fall within the trigger point (TrP) model[24,26-29]. The needling approach advocated by the radiculopathy model is a form of DDN. The TrP model includes both superficial dry needling (TrP-SDN) and deep dry needling (TrP-DDN) (Table 2).

Radiculopathy Model

The radiculopathy model is based on empirical observations by Canadian medical physician Dr. Chan Gunn, who was one of the early pioneers of dry needling. A review of TrP-DN would be incomplete without including a brief summary of Gunn's needling approach, although the radiculopathy model no longer includes TrP-DN[13]. Initially, Gunn incorporated MTrPs in his thinking, but fairly soon he moved away from MTrPs and further developed and defined his DDN approach, referred to as intramuscular stimulation or IMS[18-20]. Gunn introduced the term "IMS" to distinguish his approach from other needling and injection approaches, but the term is frequently used to describe any dry needling technique[30]. According to Gunn's web site, "hundreds of doctors and physiotherapists from all around the world" have been trained in the technique[31]. The web site also mentions that "some practitioners employ altered versions of IMS not endorsed by Professor Gunn or the medical community"[31].

The Gunn IMS technique is based on the premise that myofascial pain syndrome (MPS) is always the result of peripheral neuropathy or radiculopathy, defined by Gunn

Table 2: Models of Needling.

	TrP Model	Radiculopathy Model	Spinal Segmental Sensitization Model
Superficial DN	Yes	No	No
Deep DN	Yes	Yes	No
Injection therapy	Yes	No	Yes

TrP- trigger point; DN- dry needling

as "a condition that causes disordered function in the peripheral nerve"[30]. In Gunn's view, shortening of the paraspinal muscles, particularly the multifidi muscles, leads to disc compression, narrowing of the intervertebral foramina, or direct pressure on the nerve root, which subsequently would result in peripheral neuropathy and compression of supersensitive nociceptors and pain.

The radiculopathy model is based on Cannon and Rosenblueth's Law of Denervation, which maintains that the function and integrity of innervated structures is dependent upon the free flow of nerve impulses[32]. When the flow of nerve impulses is restricted, all innervated structures, including skeletal muscle, smooth muscle, spinal neurons, sympathetic ganglia, adrenal glands, sweat cells, and brain cells become atrophic, highly irritable, and supersensitive[30]. Gunn suggested that many common diagnoses, such as Achilles tendonitis, lateral epicondylitis, frozen shoulder, chrondromalacia patellae, headaches, plantar fasciitis, temporomandibular joint dysfunction, myofascial pain syndrome (MPS), and others, might in fact be the result of neuropathy[30]. Chu has adapted Gunn's radiculopathy model in that she has recognized that MTrPs are frequently the result of cervical or lumbar radiculopathy[16,18,22,23].

Gunn[13] maintained that the most effective treatment points are always located close to the muscle motor points or musculotendinous junctions, which are distributed in a segmental or myotomal fashion in muscles supplied by the primary anterior and posterior rami. Because the primary posterior rami are segmentally linked to the paraspinal muscles, including the multifidi, and the primary anterior rami with the remainder of the myotome, the treatment must always include the paraspinal muscles as well as the more peripheral muscles. Gunn found that the tender points usually coincided with painful palpable muscle bands in shortened and contracted muscles. He suggested that nerve root dysfunction is particularly due to spondylotic changes. According to Gunn, relatively minor injuries would not result in severe pain that continues beyond a "reasonable" period, unless the nerve root was already in a sensitized state prior to the injury[13].

Gunn's assessment technique is based on the evaluation of specific motor, sensory, and trophic changes. The main objective of the initial examination is to find characteristic signs of neuropathic pain and to determine which segmental levels are involved in a given individual. The examination is rather limited and does not include standard medical and physical therapy evaluation techniques, including common orthopaedic or neurological tests, laboratory tests, electromyographic or nerve conduction tests, or radiologic tests, such as MRI, CT, or even X-rays. Motor changes are assessed through a few functional motor tests and through systematic palpation of the skin and muscle bands along the spine and in those peripheral muscles that belong to the involved myotomes. Gunn emphasized evaluating the paraspinal regions for trophic changes, which may include orange peel skin (*peau d'orange*), dermatomal hair loss, and differences in skin folds and moisture levels (dry versus moist skin)[13].

Although Gunn et al completed one of the first dry needling outcome studies, which demonstrated that IMS can be an effective treatment option, there are no studies that substantiate the theoretical basis of the radiculopathy model or of the IMS needling interventions[5,33]. Although Gunn emphasized the importance of being able to objectively verify the findings of neuropathic pain[34], there also are no interrater reliability studies and no studies that support the idea that the described findings are indeed indicative of neuropathic pain[5]. For example, there is no scientific evidence that an MTrP is always a manifestation of radiculopathy resulting from trauma to a nerve, even though it is conceivable that one possible cause of the formation of MTrPs is indeed nerve damage or dysfunction[35]. Interestingly, Gunn did not regard his model as a hypothesis but rather considered it a mere "description of clinical findings that can be found by anyone who examines a patient for radiculopathy"[34]. However, without scientific validation, the radiculopathy model was never developed beyond the hypothetical stage. Gunn's conclusion that relative minor injuries would not result in chronic pain without prior sensitization of the nerve root is inconsistent with many current neurophysiological studies that confirm that persistent and even relatively brief nociceptive input can result in pain-producing plastic dorsal horn changes[36-42].

Trigger Point Model

Clinicians practicing from the perspective of the trigger point model specifically target MTrPs. The clinical manifestation of MTrPs is referred to as MPS and is defined as the "sensory, motor, and autonomic symptoms caused by MTrPs"[1]. Myofascial trigger points may consist of multiple contraction knots, which are thought to be due to an excessive release of acetylcholine (ACh) from select motor endplates, and can be divided into active and latent MTrPs[1,43,44]. The release of ACh has been associated with endplate noise, a characteristic electromyographic discharge at MTrP sites, consisting of low-amplitude discharges in the order of 10-50 μV and intermittent high-amplitude discharges (up to 500 μV) in painful MTrPs[45-47]. Active MTrPs can spontaneously trigger local pain in the vicinity of the MTrP, or they can refer pain or paraesthesiae to more distant locations. They cause muscle weakness, range of motion restrictions, and several autonomic phenomena. Latent MTrPs do not trigger local or referred pain without being stimulated, but they may alter muscle activation patterns and contribute to limited range of motion[48]. Simons, Travell, and Simons documented the referred pain patterns of MTrPs in 147 muscles[1], while Dejung et al[49] published slightly different

referred pain patterns based on their empirical findings. Several case reports and research studies have examined referred pain patterns from MTrPs[50-71]. Following Kellgren's early studies of muscle referred pain patterns, which contributed to Travell's interest in musculoskeletal pain, many studies have been published on muscle referred pain without specifically mentioning MTrPs. This brings up the question as to whether referred pain patterns are characteristic of each muscle or can be established for specific MTrPs[72-84]. MTrPs are identified manually by using either a flat palpation—for example with palpation of the infraspinatus, the masseter, temporalis, and lower trapezius—or a pincer-type palpation technique, for example with palpation of the sternocleidomastoid, the upper trapezius, and the gastrocnemius[1].

The interrater reliability of identifying MTrPs has been studied by several researchers and was established in a small number of studies[85-87]. Gerwin et al[86] concluded that training is essential to reliably identify MTrPs, while Sciotti et al[87] confirmed the clinically adequate interrater reliability of locating latent MTrPs in the trapezius muscle. In an unpublished study by Bron et al, three blinded observers were able to reach acceptable agreement on the presence or absence of TrPs in the shoulder region. The authors concluded that palpation of MTrPs is reliable and might be a useful tool in the diagnosis of myofascial pain in patients with non-traumatic shoulder pain[85]. A recent study of the intrarater reliability of identifying MTrPs in patients with rotator cuff tendonitis reached perfect agreement (κ=1.0) for the taut band, spot tenderness, jump sign, and pain recognition, which the author attributed to methodological rigor[88]. However, considering the small sample size and limited variation in the subjects used in this study, it might have been inappropriate to establish the intrarater reliability using the kappa statistic[89].

Diagnostically, TrP-DDN can assist in differentiating between pain that originates from a joint, an entrapped nerve, or a muscle. Mechanical stimulation or deformation of a sensitized MTrP can reproduce the patient's pain complaint due to MTrPs when the DDN technique is used[90,91]. In most instances, it is relatively easy to trigger the patient's referred pain pattern with TrP-DDN compared to manual techniques. When the pain originates in deeper structures, such as the multifidi, supraspinatus, psoas, or soleus muscles, manual techniques may be inadequate and may not provide sufficient diagnostic information. In addition, myofascial pain may mimic radicular pain syndromes[55]. For example, pain resembling a C8 or L5 radiculopathy may be due to MTrPs in the teres minor muscle or the gluteus minimus muscle, respectively. If needling an MTrP elicits the patient's familiar referred pain down the involved extremity, the cause of at least part of the pain is likely myofascial in nature and not (solely) neurogenic[55,92]. The ability to reproduce the patient's pain has great diagnostic value and can assist in the differential diagnostic process.

One of the unique features of MTrPs is the phenomenon of the so-called local twitch response (LTR), which is an involuntary spinal cord reflex contraction of the muscle fibers in a taut band following palpation or needling of the band or MTrP[93,94]. Local twitch responses can be elicited manually by snapping taut bands that harbor MTrPs. When using invasive procedures like TrP-DDN or injections therapeutically, eliciting LTRs is essential[95]. Not only is the treatment outcome much improved, but LTRs also confirm that the needle was indeed placed into a taut band, which is particularly important when needling MTrPs close to peripheral nerves or viscera, such as the lungs[25].

Intramuscular Electrical Stimulation

One of the advantages of TrP-DN is that physical therapists can easily combine the needling procedures with electrical stimulation. Several terms have been used to describe electrical stimulation through acupuncture needles, including percutaneous electrical nerve stimulation (PENS), percutaneous electrical muscle stimulation, percutaneous neuromodulation therapy, and electroacupuncture (EA)[96-99]. Mayoral del Moral suggested using the term "intramuscular electrical stimulation" (IES) when applied within the context of physical therapy practice[25]. White et al[99] demonstrated that the best results were achieved when the needles were placed within the dermatomes corresponding to the local pathology. Using the needles as electrodes offers many advantages over more traditional transcutaneous nerve stimulation (TENS). Not only is the resistance of the skin to electrical currents eliminated, but several studies have also demonstrated that PENS provided more pain relief and improved functionality than TENS, for example in patients with sciatica and chronic low back pain[100,101]. Animal experiments have shown that EA can modulate the expression of N-methyl-D-aspartate in primary sensory neurons with involvement of glutamate receptors[102,103].

Not much is known about the optimal treatment parameters for IES. While EA units offer many options for amplitude and frequencies, there is little research linking these options to the management of pain. Frequencies between 2 and 4 Hz with high intensity are commonly used in nociceptive pain conditions and may result in the release of endorphins and enkephalins. For neuropathic pain, it is recommended to use currents with a frequency between 80 and 100 Hz, which are thought to affect release of dynorphin, gamma-aminobutyric acid, and galanin[104]. However, a study examining the effects of high- and low-frequency EA in pain after abdominal surgery found that both frequencies significantly reduced the pain[105]. Another study concluded that high-intensity levels were more effective than low-intensity stimulation[97]. In IES, the negative electrode is usually placed in the

MTrP and the positive in the taut band but outside the MTrP. Elorriaga recommended inserting two converging electrodes in the MTrP, while Mayoral del Moral et al suggested inserting the electrodes at both sides of an MTrP inside the taut band[106,107]. Chu developed an electrical stimulation modality that automatically elicits LTRs, which she referred to as "electrical twitch-obtaining intramuscular stimulation" or ETOIMS[18,21,22]. The technique can also be simulated using standard EMG equipment[23].

Superficial Dry Needling

In the early 1980s, Baldry was concerned about the risk of causing a pneumothorax when treating a patient with an MTrP in the anterior scalene muscle. Rather than using TrP-DDN, he inserted the needle superficially into the tissue immediately overlying the MTrP. After leaving the needle in for a short time, the exquisite tenderness at the MTrP was abolished and the spontaneous pain was alleviated[24]. Based on this experience, Baldry expanded the practice of SDN and applied the technique to MTrPs throughout the body with good empirical results, even in the treatment of MTrPs in deeper muscles[24]. He recommended inserting an acupuncture needle into the tissues overlying each MTrP to a depth of 5-10 mm for 30 seconds[24]. Because the needle does not necessarily reach the MTrP, LTRs are not expected. Nevertheless, the patient commonly experiences an immediate decrease in sensitivity following the needling procedure. If there is any residual pain, the needle is reinserted for another 2-3 minutes. When using the TrP-SDN technique, Baldry commented that the amount of needle stimulation depends on an individual's responsiveness. In so-called average responders, Baldry recommended leaving the needle *in situ* for 30-60 seconds. In weak responders, the needle may be left for up to 2 or 3 minutes. There is some evidence from animal studies that this responsiveness is at least partially genetically determined. Mice deficient in endogenous opioid peptide receptors did not respond well to needle-evoked nerve stimulation[108]. Baldry suggested that weak responders might have excessive amounts of endogenous opioid peptide antagonists[24]. Baldry preferred TrP-SDN over TrP-DDN, but indicated that in cases where MTrPs were secondary to the development of radiculopathy, he would consider using TrP-DDN[24].

Another SDN technique was developed in 1996 in China[27,29]. Initially, Fu's subcutaneous needling (FSN), also referred to as "floating needling," was developed to treat various pain problems without consideration of MTrPs, such as chronic low back pain, fibromyalgia, osteoarthritis, chronic pelvic pain, post-herpetic pain, peripheral neuropathy, and complex regional pain syndrome[29]. In a recent paper, Fu et al[28] applied their needling technique to MTrPs and examined whether the direction of the needle is relevant in that treatment. The needle

Fig. 1: Trigger point dry needling of the trapezius muscle

Fig. 2: Trigger point dry needling of the thoracic multifidi muscles using a Japanese needle plunger

Fig. 3: Trigger point dry needling of the gluteus medius muscle

was either directed across muscle fibers or along muscle fibers toward an MTrP. The authors concluded that FSN had an immediate effect on inactivating MTrPs in the neck, irrespective of the direction of the needle[28].

The FSN needle consists of three parts: a 31 mm beveled-tip needle with a 1 mm diameter, a soft tube similar to an intravenous catheter, and a cap. The needle is directed toward a painful spot or MTrP at an angle of 20–30^0 with the skin but does not penetrate muscle tissue. The technique acts solely in the subcutaneous layers. The needle is advanced parallel to the skin surface until the soft tube is also under the skin. At that time, the needle is moved smoothly and rhythmically from side to side for at least two minutes, after which the needle is removed from the soft tube, which stays in place. Patients go home with the soft tube still inserted under the skin. The soft tube can move slightly underneath the skin because of patients' movements and is thought to continue to stimulate subcutaneous connective tissues while in place[27-29]. The soft tube is kept under the skin for a few hours for acute injuries and for at least 24 hours for chronic pain problems, after which it is removed[27,29]. According to Fu et al, the technique has no adverse or side effects and usually induces an immediate reduction of pain. The needle technique should not be painful as subcutaneous layers are poorly innervated[27-29]. Because FSN was only recently introduced to the Western world, the technique has not been used much outside of China and there are no other clinical outcome studies.

Effectiveness of Trigger Point Dry Needling

The effectiveness of TrP-DN is, to some extent, dependent upon the ability to accurately palpate MTrPs. Without the required excellent palpation skills, TrP-DN can be a rather random process. In addition to being able to palpate MTrPs before using TrP-DN, it is equally important that clinicians develop the skills to accurately needle the MTrPs identified with palpation. Physical therapists need to learn how to visualize a 3-dimensional image of the exact location and depth of the MTrP within the muscle. The level of kinaesthetic perception needed to perform TrP-DN safely and accurately is a learned skill. Noë[109] maintained that such perception is constituted in part by sensori-motor knowledge but also depends on having sufficient knowledge of the subject. The ability to perceive the end of the needle and the pathways the needle takes inside the patient's body is a developed skill on the part of the physical therapist, a process Noë referred to as an "enactive" approach to perception[109]. A high degree of kinaesthetic perception allows a physical therapist to use the needle as a palpation tool and to appreciate changes in the firmness of those tissues pierced by the needle[25]. For example, a trained clinician will appreciate the difference between needling the skin, the subcutaneous tissue, the anterior lamina of the rectus abdominis muscle, the muscle itself, a taut band in the muscle, the posterior lamina, and the peritoneal cavity, thereby increasing the accuracy of the needling procedure and reducing the risks associated with it[25].

Considering the invasive nature of TrP-DN, it is very difficult to develop and implement double blind and randomized placebo-controlled studies[110-113]. When researchers use minimal, sham, superficial, or placebo needling, there is growing evidence that even light touch of the skin can stimulate mechanoreceptors coupled to slow conducting afferents, which causes activity in the insular region and subsequent increased feelings of well-being and decreased feelings of unpleasantness[114-117]. However, several case reports, review articles, and research studies have attested to the effectiveness of TrP-DN. Ingber[118] documented the successful TrP-DN treatment of the subscapularis muscles in three patients diagnosed with chronic shoulder impingement syndrome. One patient required a total of 6 TrP-DN treatments out of a total of 11 visits. The treatments were combined with a progressive therapeutic stretching program and later with muscle strengthening. The second patient had a 1-year history of shoulder impingement. He required 11 treatments with TrP-DN before returning to playing racquetball. Both patients had failed previous physical therapy treatments, which included ice, electrical stimulation, ultrasound, massage, shoulder limbering, isotonic strengthening, and the use of an upper body ergometer. The third patient was a competitive racquetball player with a 5-month history of sharp anterior shoulder pain, who was unable to play in spite of medical treatment. After one session of TrP-DN, he was able to compete in a racquetball tournament. Throughout the tournament, he required twice weekly TrP-DN treatments. Following the tournament, he had just a few follow-up visits. The patient reported a return of full power on serves and forehand strokes[118].

In 1979, Czech medical physician Karel Lewit published one of the first clinical reports on the subject[119]. Lewit confirmed the findings of Steinbrocker that the effects of needling were primarily due to mechanical stimulation of MTrPs. As early as 1944, Steinbrocker had commented on the effects of needle insertions on musculoskeletal pain without using an injectable[120]. Lewit found that dry needling of MTrPs caused immediate analgesia in nearly 87% of needle sites. In over 31% of cases, the analgesia was permanent, while 20% had several months of pain relief, 22% several weeks, and 11% several days; 14% had no relief at all[119].

Cummings[121] reported a case of a 28-year-old female with a history of a left axillary vein thrombosis, a subsequent venoplasty, and a trans-axillary resection of the left first rib. The patient developed chronic chest pain with left arm, forearm, and hand pain. The symptoms were initially attributed to traction on the intercostobrachial nerve, rotator cuff atrophy, Raynaud's phenomenon, and possible scarring around the C8/T1 nerve root. After 7

months of chronic pain, the patient consulted with a clinician familiar with MTrPs, who identified an MTrP in the left pectoralis major muscle. She was treated with only 2 gentle and brief needle insertions of 10 seconds each, combined with a home stretching program. After 2 weeks, she had few remaining symptoms. One additional treatment with two TrP-DN insertions resolved the symptoms within two hours[121]. In another case report, Cummings described a 33-year-old woman with an 8-year history of knee pain, who was successfully treated with two sessions of EA directed at an MTrP in the ilopsoas muscle[54].

Weiner and Schmader[64] described the successful use of TrP-DN in the treatment of five persons with post-herpetic neuralgia. For example, a 71-year-old female with post-herpetic neuralgia for 18 months required only 3 TrP-DN sessions during which LTRs were elicited. Previous treatments included gabapentin, oxycodone, acetaminophen, chiropractic manipulations, and epidural corticosteroids. Another patient was treated with a combination of cervical percutaneous electrical nerve stimulation and TrP-DN for 4 sessions resulting in a dramatic decrease in pain. The authors suggested that prospective studies of the correlation between MTrPs and post-herpetic neuralgia are desperately needed[64]. Only one previous report has described the relevance of MTrPs in the symptomatology of post-herpetic neuralgia[52].

A recent study comparing the effects of therapeutic and placebo dry needling on hip straight leg raising, internal rotation, muscle pain, and muscle tightness in subjects recruited from Australian Rules football clubs found no differences in range of motion and reported pain between the two groups[122]. Unfortunately, the researchers attempted to treat MTrPs in the gluteal muscles of presumably well-trained athletes with a 25 mm needle, which most likely is too short to reach deeper points in conditioned individuals. In other words, both interventions may have been placebos, as direct needling of pertinent MTrPs may not have occurred. At the same time, there are many other muscles that may need to be treated before changes in hip range of motion would be measurable, including the piriformis and other hip rotators, the abductor magnus, and the hamstrings. Hamstring pain is frequently due to MTrPs in the hamstrings or the adductor magnus and not from gluteal MTrPs[123].

Another Australian study considered the effects of latent MTrPs on muscle activation patterns in the shoulder region[48]. During the first phase of the study, subjects with latent MTrPs were found to have abnormal muscle activation patterns compared to healthy control subjects. The time of onset of muscle activity of the upper and lower trapezius, the serratus anterior, the infraspinatus, and middle deltoid muscles was determined using surface electromyography. During the second phase, the subjects with latent MTrPs and abnormal muscle activation patterns were randomly assigned to either a treatment group or a placebo group. Subjects in the treatment group were treated with TrP-DN and passive stretching. Subjects in the placebo group received sham ultrasound. After TrP-DN and stretching, the muscle activation patterns of the treated subjects had returned to normal. Subjects in the placebo treatment group did not change after the sham treatment. This study confirmed that latent MTrPs could significantly impair muscle activation patterns[48]. The authors also established that TrP-DN combined with muscle stretches facilitated an immediate return to normal muscle activation patterns, which may be especially relevant when optimal movement efficiency is required in sports participation, musical performance, and other demanding motor tasks, for example.

A 2005 Cochrane review aimed to "assess the effects of acupuncture for the treatment of non-specific low back pain and dry needling for myofascial pain syndrome in the low back region"[124]. Cochrane reviews are highly regarded, rigorous reviews of the available evidence of clinical treatments. The reviews become part of the Cochrane Database of Systematic Reviews, which is published quarterly as part of the Cochrane Library. For this 2005 review, the researchers reviewed the CENTRAL, MEDLINE, and EMBASE databases, the Chinese Cochrane Centre database of clinical trials, and Japanese databases from 1996 to February 2003. Only randomized controlled trials were included in this review using the strict guidelines from the Cochrane Collaboration. Although the authors did not find many high-quality studies, they concluded that dry needling might be a useful adjunct to other therapies for chronic low back pain. They did call for more and better quality studies with greater sample sizes[124].

Recent research by Shah et al [125]at the US National Institutes of Health underscored the importance of eliciting LTRs with TrP-DDN. Those authors sampled and measured the *in vitro* biochemical milieu within normal muscle and at active and latent MTrPs in near real-time at the sub-nanogram level of concentration; they found significantly increased concentrations of bradykin, calcitonin-gene-related-peptide, substance P, tumor necrosis factor- , interleukin-1 , serotonin, and norepinephrine in the immediate milieu of active MTrPs only[125]. After the researchers elicited an LTR at the active and latent MTrPs, the concentrations of the chemicals in the immediate vicinity of active MTrPs spontaneously reduced to normal levels. Not only did this study suggest that LTRs might normalize the chemical environment near active MTrPs and reduce the concentration of several nociceptive substances, it also confirmed that the clinical distinction between latent and active MTrPs was associated with a highly significant objective difference in the nociceptive milieu[125]. Another study confirmed the importance of eliciting LTRs with TrP-DDN[126]. In a rabbit study of the effect of LTRs on endplate noise, Chen et al found that eliciting LTRs actually diminished the spontaneous

electrical activity associated with MTrPs[44,126].

Dilorenzo et al[127] conducted a prospective, open-label, randomized study on the effect of DDN on shoulder pain in 101 patients with a cerebrovascular accident. The patients were randomly assigned to a standard rehabilitation-only group or to a standard rehabilitation and DDN group. Subjects in the DDN group received 4 DDN treatments at 5- to 7-day intervals into MTrPs in the supraspinatus, infraspinatus, upper and lower trapezius, levator scapulae, rhomboids, teres major, subscapularis, latissimus dorsi, triceps, pectoralis, and deltoid muscles. Compared to subjects in the rehabilitation-only group, subjects in the DDN group reported significantly less pain during sleep and during physical therapy treatments, had more restful sleep, and experienced significantly less frequent and less intense pain. They reduced their use of analgesic medications and demonstrated increased compliance with the rehabilitation program. The authors concluded that DDN might provide a new therapeutic approach to managing shoulder pain in patients with hemiparesis.

Several studies have compared SDN to DDN[128-130]. Ceccherelli et al[128] randomly assigned 42 patients with lumbar myofascial pain into two groups. The first group was treated with a shallow needle technique to a depth of 2 mm at 5 predetermined traditional acupuncture points, while the second group received intramuscular needling at 4 arbitrarily selected MTrPs. The DDN technique resulted in significantly better analgesia than the SDN technique[128]. Another randomized controlled clinical study compared the efficacy of standard acupuncture, SDN, and DDN in the treatment of elderly patients with chronic low back pain[129]. The standard acupuncture group received treatment at traditional acupuncture points with the needles inserted into the muscle to a depth of 20 mm. The points were stimulated with alternate pushing and pulling of the needle until the subjects felt dull pain or the "de qi" acupuncture sensation, after which the needle was left in place for 10 minutes. This "de qi" sensation is a desired sensation in traditional acupuncture. The TrP-DN groups received treatment at MTrPs in the quadratus lumborum, iliopsoas, piriformis, and gluteus maximus muscles, among others. In the SDN group, the needles were inserted into the skin over MTrPs to a depth of approximately 3 mm. Once a subject reported dull pain or the "de qi" sensation mentioned above, the needle was kept in place for 10 more minutes. In the DDN group, the needle was advanced an additional 20 mm. Using the same alternate pushing and pulling needle technique, the needle was again kept in place for an additional 10 minutes once an LTR was elicited. The authors concluded that DDN might be more effective in the treatment of low back pain in elderly patients than either standard acupuncture or SDN[129]. While the authors of both studies concluded that DDN might be the most effective treatment option, it is important to realize that the protocols used in these studies for both SDN and DDN do not reflect common clinical practice for either needling technique. For example, needles are rarely kept in place for 10 minutes. Also, Baldry[24] did not recommend inserting the needle to only a 2 mm depth. In the second study, only one LTR was required in the DDN group. In clinical practice, multiple LTRs are elicited per MTrP[95]. The second study had a relatively small sample size of only 9 subjects per group, which may make any definitive conclusions somewhat premature. Neither study considered Baldry's notion of differentiating the technique based on the response pattern of the patient.

Edwards and Knowles[131] conducted a randomized prospective study of superficial dry needling combined with active stretching. Subjects received either SDN combined with active stretching exercises, stretching exercises alone, or no treatments. After 3 weeks, there were no statistically significant differences between the three groups. However, after another 3 weeks, the SDN group had significantly less pain compared to the no-intervention group and significantly higher pressure threshold measures compared to the active stretching-only group. This study did support the SDN technique, even though not all outcome measures were blinded[131]. Macdonald et al[132] demonstrated the efficacy of SDN in a randomized study of subjects with chronic lumbar MTrPs. The active group received SDN with the needles inserted to a depth of 4 mm over the MTrPs. The control group received sham electrotherapy. The researchers concluded that SDN was significantly better than this placebo[132]. Unfortunately, these studies did not follow Baldry's procedures either. However, the techniques are similar with some variations in duration and depth of insertion. Lastly, a study comparing superficial versus deep acupuncture found no statistical difference in reduction of idiopathic anterior knee pain between the two methods. Pain measurements decreased significantly for both groups[133].

Mechanisms of Trigger Point Dry Needling

In spite of a growing body of literature exploring the etiology and pathophysiology of MTrPs, the exact mechanisms of TrP-DN remain elusive[5]. The finding that LTRs can normalize the chemical environment of active MTrPs and diminish endplate noise associated with MTrPs in rabbits nearly instantaneously is critical in understanding the effects of TrP-DN, but neither has been explored in depth[125,126]. Simons, Travell, and Simons[1] indicated that the therapeutic effect of TrP-DDN was mechanical disruption of the MTrP contraction knots. Since MTrPs are associated with dysfunctional motor endplates, it is conceivable that TrP-DDN damages or even destroys motor endplates and causes distal axon denervations when the needle hits an MTrP. There is some evidence that this could trigger specific changes in the

endplate cholinesterase and ACh receptors as part of the normal muscle regeneration process[134,135]. Needles used in TrP-DDN have a diameter of approximately 160–300 µm, which would cause very small focal lesions without any significant risk of scar tissue formation. In comparison, the diameter of human muscle fibers ranges from 10–100 µm. Muscle regeneration involves satellite cells, which repair or replace damaged myofibers[136]. Satellite cells may migrate from other areas in the muscle and are activated following actual muscle damage but also after light pressure as used in manual trigger point therapy[134,137]. Muscle regeneration following TrP-DN is expected to be complete in approximately 7-10 days[138]. It is not known whether repeated needling during the regeneration phase in the same area of a muscle can exhaust the regenerative capacity of muscle tissue, giving rise to an increase in connective tissue and impairing the reinnervation process[138]. An accurately placed needle may also provide a localized stretch to the contractured cytoskeletal structures, which would allow the involved sarcomeres to resume their resting length by reducing the degree of overlap between actin and myosin filaments[5]. To provide ultra-localized stretch to the contractured structures, it may be beneficial to rotate the needle[139]. In addition, the mechanical pressure exerted via the needle may electrically polarize muscle and connective tissues. A physical characteristic of collagen fibers is their intrinsic piezoelectricity, a property that allows tissues to transform mechanical stress into electrical activity necessary for tissue remodeling[140].

TrP-SDN involves a very light stimulus aimed at minimizing pain responses[24]. Based on their studies on rats and mice, Swedish researchers have suggested that the reduction of pain after TrP-SDN may partially be due to the central release of oxytocine[141,142]. Baldry[24] suggested that with TrP-SDN, the acupuncture needle stimulates Aδ sensory nerve afferents, an assumption based primarily on the work of Bowsher, who maintained that sticking a needle into the skin is always a noxious stimulus[143]. According to Baldry, Aδ nerve fibers are stimulated for as long as 72 hours after needle insertion. Prolonged stimulation of the sensory afferent Aδ nerve fibers may activate enkephalinergic, serotonergic, and noradrenergic inhibitory systems, which would imply that TrP-SDN could cause opioid-mediated pain suppression[144]. However, other than in so-called "strong responders," TrP-SDN is usually painless even when applied over painful MTrPs. It is, therefore, questionable that the effects of TrP-SDN can be explained through their alleged stimulation of Aδ fibers. As Millan has summarized in his comprehensive review[145], Aδ fibers are divided into two types: Type I Aδ fibers are high-threshold, rapidly conducting mechanoreceptors and are activated only by mechanical stimuli in the noxious range while type II Aδ fibers are more responsive to thermal stimuli. Superficial trigger point dry needling as advocated by Baldry does not seem to be able to stimulate either type of Aδ fiber, unless the patient experiences the needling as a noxious event. As an alternative to invasive procedures, several quartz stimulators have been developed. When pressed against the skin, they cause a small painful spark, similar to an electric barbecue igniter. While these devices are likely to cause Aδ fiber activation, and at least theoretically could be used as an alternative to TrP-SDN, the US Food and Drug Administration has not approved their use[146].

Skin and muscle needle stimulation of Aδ and C afferent fibers in anaesthetized rats was capable of producing an increase in cortical cerebral blood flow, which was thought to be due to a reflex response of the afferent pathway, including group II and IV afferent nerves, and the efferent intrinsic nerve pathway, including cholinergic vasodilators[147]. Superficial needling of certain acupuncture points in patients with chronic pain showed similar changes in cerebral blood flow[148]. Takeshige et al[149] determined that direct needling into the gastrocnemius muscle and into the ipsilateral L5 paraspinal muscles of a guinea pig resulted in significant recovery of the circulation, after ischaemia was introduced to the muscle using tetanic muscle stimulation. They also confirmed that needling of acupuncture points and non-acupuncture points involved the descending pain inhibitory system, although the actual afferent pathways were distinctly different. Acupuncture analgesia involved the medial hypothalamic arcuate nucleus of the descending pain inhibitory system, while non-acupuncture analgesia involved the anterior part of the hypothalamic arcuate nucleus. In both kinds of needle stimulation, the posterior hypothalamic arcuate nucleus was involved[149-151]. Several other acupuncture studies reported specific changes in various parts of the brain with needling of acupuncture points in comparison with control points[152,153]. While traditional acupuncturists have maintained that acupuncture points have unique clinical effects, the findings of these studies are not specific necessarily to acupuncture but may be more related to the patients' expectations[154]. It is likely that any needling, including TrP-DN, causes similar changes, although there is no research to date that provides definitive evidence for the role of the descending pain inhibitory system when needling MTrPs[155].

Recent studies by Langevin et al[139,156-161] are of particular interest even though they did not consider TrP-DN in their work. A common finding when using acupuncture needles is the phenomenon of the "needle grasp," which has been attributed to muscle fibers contracting around the needle and holding the needle tightly in place[162]. During needle grasp, a clinician experiences an increased pulling at the needle and an increased resistance to further movement of the inserted needle. The studies by Langevin et al provided evidence that

needle grasp is not necessarily due to muscle contractions, but that subcutaneous tissues play a crucial role, especially when the needle is manipulated. Rotation of the needle did not only increase the force required to remove the needle from connective tissues, but it also created measurable changes in connective tissue architecture, due to winding of connective tissue and creation of a tight mechanical coupling between needle and tissue[159]. Even small amounts of needle rotation caused pulling of collagen fibers towards the needle and initiated specific changes in fibroblasts further away from the needle. The fibroblasts responded by changing shape from a rounded appearance to a more spindle-like shape, which the researchers described as "large and sheet-like"[139,156,157,159]. The transduction of the mechanical signal into fibroblasts can lead to a wide variety of cellular and extracellular events, including mechanoreceptor and nociceptor stimulation, changes in the actin cytoskeleton, cell contraction, variations in gene expression and extracellular matrix composition, and eventually to neuromodulation[156,163,164]. Although the significance of these studies is not yet clear for TrP-DDN, it is likely that loose connective tissue plays an important role in TrP-SDN. Fu et al[28] attributed the effects of their subcutaneous needle approach to the manipulation of the needle and referred to this groundbreaking research done by Langevin et al. To increase the effectiveness of TrP-SDN, it may prove beneficial to rotate the needle rather than leave it in place without manipulation, especially in weak responders. Needle rotation may stimulate Aδ fibers and activate enkephalinergic, serotonergic, and noradrenergic inhibitory systems[24,143]. With TrP-DDN, rotation of a needle placed within an MTrP can facilitate the eliciting of typical referred pain patterns. More research is needed to determine the various aspects of the mechanisms of TrP-DN.

Trigger Point Dry Needling versus Injection Therapy

The term "dry needling" is used to differentiate this technique from MTrP injections. Myofascial trigger point injections are performed with a variety of injectables, such as procaine, lidocaine, and other local anesthetics; isotonic saline solutions; non-steroidal anti-inflammatories; corticosteroids; bee venom; botulinum toxin; and serotonin antagonists[165-173]. There is no evidence that MTrP injections with steroids are superior to lidocaine injections[174]. In fact, intramuscular steroid injections may lead to muscle breakdown and degeneration[175,176]. Travell preferred to use procaine[173,177]. As procaine is difficult to obtain, it is now recommended to use a 0.25% lidocaine solution[169]. Recent studies in Germany demonstrated that injections with tropisetron, which is a serotonin receptor antagonist, were superior to injections with local anesthetics[171,178]. However, injectable serotonin receptor antagonists are not available in the US. Myofascial trigger point injections are generally limited to medical practice only, although in some jurisdictions, such as South Africa and the State of Maryland, physical therapists are legally allowed to perform MTrP injections. Similarly, physical therapists in the UK are allowed to perform joint and soft tissue injections[179].

When comparing MTrP injection therapy with TrP-DN, many authors have suggested that "dry needling of the MTrP provides as much pain relief as injection of lidocaine but causes more post-injection soreness"[180]. Usually, these authors reference a study by Hong[95] comparing lidocaine injections with TrP-DN; however, this author compared lidocaine injections with TrP-DN using a syringe and not an acupuncture needle. Recently, Kamanli et al[181] updated the 1994 Hong study and compared the effects of lidocaine injections, botulinum toxin injections, and TrP-DN. In this study, the researchers also used a syringe and not an acupuncture needle, and they did not consider LTRs. In clinical practice, TrP-DN is typically performed with an acupuncture needle. There are no scientific studies that compare TrP-DN with acupuncture needles to MTrP injections with syringes. Based on published research studies, the assumption that TrP-DN would cause more post-needling soreness when compared to lidocaine injections cannot be substantiated when acupuncture needles are used.

Prior to the development of TrP-DN, MTrPs were treated primarily with injections, which explains why many clinical outcome studies are based on injection therapy[67,165,166,169,174,176,182-188]. Several recent studies have confirmed that TrP-DN is equally effective as injection therapy, which may justify extrapolating the effects of injection therapy to TrP-DN[25,95,176,181,189,190]. Cummings and White[190] concluded, "the nature of the injected substance makes no difference to the outcome, and wet needling is not therapeutically superior to dry needling". A possible exception may be the use of botulinum toxin for those MTrPs that have not responded well to other interventions[166,191-196]. A recent consensus paper specifically recommended that botulinum toxin should only be used after physical therapy and TrP-DN do not provide satisfactory relief[193]. Botulinum toxin does not only prevent the release of ACh from cholinergic nerve endings, but there is also growing evidence that it inhibits the release of other selected neuropeptide transmitters from primary sensory neurons[192,197,198].

Many patients with chronic pain conditions frequently report having received previous MTrP injections. However, many also report that they never experienced LTRs, which raises the question as to how well trained and skilled physicians are in identifying and injecting MTrPs. A recent study revealed that MTrP injections were the second most common procedure used by Canadian pain anaesthesiologists after epidural steroid injections.

The study did not mention whether these anaesthesiologists had received any training in the identification and treatment of MTrPs with injections[199].

Trigger Point Dry Needling versus Acupuncture

Although some patients erroneously refer to TrP-DN as a form of acupuncture, TrP-DN did not originate as part of the practice of traditional Chinese acupuncture. When Gunn started exploring the use of acupuncture needles in the treatment of persons with chronic pain problems, he used the term "acupuncture" in his earlier papers. However, his thinking was grounded in neurology and segmental relationships, and he did not consider the more esoteric and metaphysical nature of traditional acupuncture[200-202]. As reviewed previously, Gunn advocated needling motor points instead of traditional acupuncture points[33,203,204]. Baldry has not advocated using the traditional system of Chinese acupuncture with energy pathways or meridians either and he has described them as "not of any practical importance"[24].

A few researchers have attempted to link the two needling approaches[205-211]. In an older study, Melzack et al[206,211] concluded that there was a 71% overlap between MTrPs and acupuncture points based on their anatomical location. This study had a profound impact particularly on the development of the theoretical foundations of acupuncture. Many researchers and clinicians quoted this study by Melzack et al as evidence that acupuncture had an established physiologic basis and that acupuncture practice could be based on reported correlations with MTrPs[205]. More recently, Dorsher[207] compared the anatomical and clinical relationships between 255 MTrPs described by Travell and Simons, and 386 acupuncture points described by the Shanghai College of Traditional Medicine and other acupuncture publications. He concluded that there is a significant overlap between MTrPs and acupuncture points and argued that "the strong correspondence between trigger point therapy and acupuncture should facilitate the increased integration of acupuncture into contemporary clinical pain management". While these studies appear to provide evidence that TrP-DN could be considered a form of acupuncture, both studies assume that there are distinct anatomical locations of MTrPs and that acupuncture points have point specificity.

It is questionable whether MTrPs have distinct anatomical locations and whether these can be reliably used in comparisons with other points[212]. In part, the *Trigger Point Manuals* are to blame for suggesting that MTrPs have distinct locations[1,213]. Simons, Travell, and Simons[1] described specific MTrPs in numbered sequences based on their "approximate order of appearance" and may have contributed to the widely accepted impression that indeed MTrPs do have distinct anatomical locations. There is no scientific research that validates the notion that MTrPs have distinctive anatomical locations, other than their close proximity to motor endplate zones. Based on empirical evidence, the numbering sequences are inconsistent with clinical practice and do not reflect patients' presentations. On the other hand, Dorsher's observation[207] that MTrP referred pain patterns have striking similarities with described courses of acupuncture meridians may be of interest. However, the same dilemma arises: Are referred pain patterns MTrP-specific or should they be described for muscles in general or perhaps for certain parts of muscles? Recent studies of experimentally induced referred pain have suggested that referred pain patterns might be characteristic of muscles rather than of individual MTrPs as Simons, Travell, and Simons suggested[1,77,82,83,214].

Birch[205] re-assessed the Melzack et al 1977 paper and concluded that the study was based on several "poorly conceived aspects" and "questionable" assumptions. According to Birch, Melzack et al mistakenly assumed that all acupuncture points must exhibit pressure pain and that local pain indications of acupuncture points are sufficient to establish a correlation. He determined that only approximately 18% – 19% of acupuncture points examined in the 1977 study could possibly correlate with MTrPs, but he did suggest that there may be a relevant correlation between the so-called "Ah Shi" points and MTrPs. In traditional acupuncture, the Ah Shi points belong to one of three major classes of acupuncture points. There are 361 primary acupuncture points referred to as "channel" points. There are hundreds of secondary class acupuncture points, known as "extra" or "non-channel" points. The third class of acupuncture points is referred to as "Ah Shi" points. By definition, Ah Shi points must have pressure pain. They are used primarily for pain and spasm conditions. Melzack et al did not consider the Ah Shi points in their study but focused exclusively on the channel points and extra points. Hong[209], as well as Audette and Binder[210], agreed that acupuncturists might well be treating MTrPs whenever they are treating Ah Shi points.

Whether TrP-DN could be considered a form of acupuncture depends partially on how acupuncture is defined. For example, the New Mexico Acupuncture and Oriental Medicine Practice Act defined acupuncture in a rather generic and broad fashion as "the use of needles inserted into and removed from the human body and the use of other devices, modalities, and procedures at specific locations on the body for the prevention, cure, or correction of any disease, illness, injury, pain, or other condition by controlling and regulating the flow and balance of energy and functioning of the person to restore and maintain health"[215]. According to this definition of acupuncture, nearly all physical therapy and medical interventions could be considered a form of acupuncture, including TrP-DN, but also any other

modality or procedure. Physicians and nurses could be accused of practicing acupuncture as they "insert and remove needles." From a physical therapy perspective, TrP-DN has no similarities with traditional acupuncture other than the tool. The objective of TrP-DN is not to control and regulate the flow and balance of energy and is not based on Eastern esoteric and metaphysical concepts. Trigger point dry needling and other physical therapy procedures are based on scientific neurophysiological and biomechanical principles that have no similarities with the hypothesized control and regulation of the flow and balance of energy[5,24]. In fact, there is growing evidence against the notion that acupuncture points have unique and reproducible clinical effects[155]. Three recent well-designed randomized controlled clinical trials with 302, 270, and 1007 patients, respectively, demonstrated that acupuncture and sham acupuncture treatments were more effective than no treatment at all, but there was no statistically significant difference between acupuncture and sham acupuncture[216-218]. As Campbell pointed out, acupuncture does not appear to have unique effects on the central nervous system, or on pain and pain modulation, which implies that the discussion whether TrP-DN is a form of acupuncture becomes irrelevant[155].

Summary and Conclusions

Trigger point dry needling is a relatively new treatment modality used by physical therapists worldwide. The introduction of trigger point dry needling to American physical therapists has many similarities with the introduction of manual therapy during the 1960s. During the past few decades, much progress has been made toward the understanding of the nature of MTrPs and, thereby, of the various treatment options. Trigger point dry needling has been recognized by prestigious organizations such as the Cochrane Collaboration and is recommended as an option for the treatment of persons with chronic low back pain. Several clinical outcome studies have demonstrated the effectiveness of trigger point dry needling. However, questions remain regarding the mechanisms of needling procedures. Physical therapists are encouraged to explore using trigger point dry needling techniques in their practices. ■

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Dry Needling in Orthopaedic Physical Therapy Practice

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NOTE: Consistent with ethical guidelines,the author wishes to disclose that he is co-founder and co-program director of the Janet G.Travell, MD Seminar Series℠, the only US-based continuing education program that offers courses for physical therapists in the technique of dry needling. Readers, check with your own state practice acts on the use of this technique.

INTRODUCTION

Orthopaedic physical therapists employ a wide range of intervention strategies to reduce patients'pain and improve function. From time to time, new treatment approaches are being introduced to the field of physical therapy. The arrival of manual therapy in the United States is a good example. Although for several decades, manual physical therapy was already an essential part of the scope of orthopaedic physical therapy practice in Europe, New Zealand, and Australia, manual therapy did not make its debut in the United States until the 1960s.[1] Initially many US state boards of physical therapy opposed the use of manual therapy. In spite of the early resistance,manual physical therapy has become a mainstream treatment approach. Manual therapy techniques are now taught in academic programs and continuing education courses. During the past few years,physical therapists,the APTA,and the AAOMPT even have had to defend the right to practice manual therapy especially when challenged by the chiropractic community! A similar development is in progress with the relatively new technique of dry needling. While some physical therapy state boards have already decided that dry needling falls within the scope of physical therapy practice, others are still more hesitant. The goal of this paper is to introduce the American orthopaedic physical therapy community to the technique of dry needling.

DRY NEEDLING

Dry needling is commonly used by physical therapists around the world. For example, in Canada, many provinces allow physical therapists to use dry needling techniques. In Spain, several universities offer academic programs that include dry needling courses. The University of Castilla - La Mancha offers a postgraduate degree in conservative and invasive physical therapy. At the University of Valencia, dry needling is included in the curriculum of the master's degree program in manipulative physical therapy. In Switzerland, dry needling courses are offered via the accredited continuing education program of the 'Interessengemeinschaft für Manuelle Triggerpunkt Therapie' (Society for Manual Trigger Point Therapy). Physical therapists in the UK are increasingly being trained in joint injection techniques.[2]

In the United States,dry needling is not included in physical therapy educational curricula and relatively few physical therapists employ the technique. Dry needling is erroneously assumed to fall under the scopes of medical practice or oriental medicine and acupuncture. However, physical therapy state boards of Maryland, New Hampshire,New Mexico,and Virginia have already ruled that dry needling does fall within the scope of physical therapy in those states. The Tennessee Board of Occupational and Physical Therapy recently rejected dry needling by physical therapists. The general counsel of the Illinois Department of Regulation advised that dry needling would not fall within the scope of practice of physical therapy but should be covered by the board of acupuncture. In the mean time, physical therapists who are adequately trained in the technique of dry needling are successfully employing the technique with a wide variety of patients.

DRY NEEDLING TECHNIQUES

Several dry needling approaches have been developed based on different individual theories, insights, and hypotheses. The 3 main schools of dry needling are presented: the myofascial trigger point model, the radiculopathy model, and the spinal segmental sensitization model.

Myofascial Trigger Point Model

Dry needling is used primarily in the treatment of myofascial trigger points (MTrPs), defined as "hyperirritable spots in skeletal muscle associated with hypersensitive palpable nodules in a taut band."[3] The MTrPs are the hallmark characteristic of myofascial pain syndrome (MPS). A recent survey of physician members of the American Pain Society showed general agreement that MPS is a distinct syndrome.[4] Throughout the history of manual physical therapy,MPS and MTrPs have received little or no attention, although several studies have demonstrated that MTrPs are commonly seen in acute and chronic pain conditions,and in nearly all orthopaedic conditions.[5] Vecchiet and colleagues demonstrated that acute pain following exercise or sports participation is often due to acutely painful MTrPs. Myofascial trigger points are often responsible for complaints of pain in persons with hip osteoarthritis,[6] pain with cervical disc lesions,[7] pain with TMD,[8] pelvic pain,[9] headaches,[10] epicondylitis,[11] etc. Hendler and Kozikowski concluded that MPS is the most commonly missed diagnoses in chronic pain patients.[12] A brief review of the current knowledge of MTrPs and MPS is indicated to better understand the place of dry needling within orthopaedic physical therapy.

Already during the early 1940s, Dr. Janet Travell (1901-1997) realized the importance of MPS and MTrPs. Recent insights in the nature, etiology, and neurophysiology of MTrPs and their associated symptoms have propelled the interest in the diagnosis and treatment of persons with MPS worldwide. The mechanism that underlies the development of MTrPs is not known, but altered activity of the motor end plate, or neuromuscular junction, is most likely. Changes in acetylcholine receptor (AChR) activity, in the number of receptors, and changes in acetylcholinesterase (AChE) activity are consistent with known mechanisms of end plate function, and could explain the changes in end plate activity that occur in the MTrP. There is a marked increase in the frequency of miniature end plate potential activity at the point of maximum tenderness in the taut band in the human, and in the neuromuscular junction end plate zone of the taut band in the rabbit model and in humans.

Normally, ACh is broken down by AChE. Preliminary results of studies by Shah and associates at the National Institutes of Health indicate that a number

of biochemical alterations are commonly found at the active MTrP site using microdialysis sampling techniques.[13] Among the changes found are elevated bradykinin, substance P, and calcitonin gene-related peptide (CGRP) levels, and lowered pH when compared to inactive (asymptomatic) MTrPs and to normal controls.[13]The combination of increased levels of CGRP and lowered pH suggest that the milieu of a MTrP is too acidic for AChE to function efficiently. The possible implications for the development of MTrPs is outside the scope of this article and will be addressed in a future article.[14] The administration of botulinum toxin can block the release of ACh, and is therefore now widely used in the management of chronic and persistent MPS.

Abnormal end plate noise (EPN) associated with MTrPs can be visualized with electromyography using a monopolar teflon-coated needle electrode and a slow insertion technique.[15,16] Active MTrPs are spontaneously painful, refer pain to more distant locations, and cause muscle weakness, mechanical range of motion restrictions, and several autonomic phenomena. One of the unique features of MTrPs is the phenomenon of the local twitch response (LTR), which is an involuntary spinal cord reflex contraction of the contracted muscle fibers in a taut band following palpation or needling of the band or trigger point.[17] The LTR can be visualized with needle electromyography and ultrasonography.[18,19]

To make a diagnosis of MPS, the minimum essential features that need to be present are the taut band, an exquisitely tender spot in the taut band, and the patient's recognition of the pain complaint by pressure on the tender nodule.[20] Simons,Travell, and Simons add a painful limit to stretch range of motion as the fourth essential criterion.[3] Referred pain, the LTR, and the electromyographic demonstration of end plate noise are confirmatory observations and not essential for the clinical diagnosis.

From a biomechanical perspective, National Institutes of Health researchers Wang and Yu hypothesized that MTrPs are severely contracted sarcomeres whereby myosin filaments literally get stuck in titin gel at the Z-band of the sarcomere (Figures 1 and 2).[21] Titin is the largest known protein that connects the Z-band with myosin filaments within a sarcomere. Approximately 90% of titin consists of 244 repeating copies of fibronectin

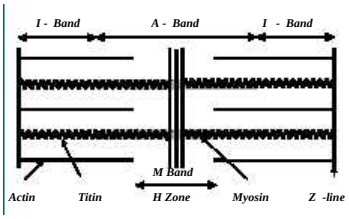

Figure 1. Schematic representation of a normal sarcomere.

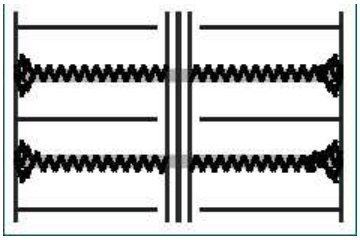

Figure 2. Schematic representation of a MTrP with myosin filaments literally stuck in titin gel at the Z-line (after Wang K, Yu L. Emerging Concepts of Muscle Contraction and Clinical Implications for Myofascial Pain Syndrome. Presented at Focus on Pain 2000, Mesa, AZ: Janet G. Travell, MD Seminar Series[109].)

type III and immunoglobin domains, which may contribute to the sticky nature of titin once muscle fibers are contracted.

Histological studies have confirmed the presence of extreme sacromere contractions, resulting in localized tissue hypoxia.[22] Brückle and colleagues established that the local oxygen saturation at a MTrP site is less than 5% of normal.[23] Hypoxia leads to the release of local release of several nociceptive chemicals, including bradykinin, CGRP, and substance P,among others,which have been detected in abnormal high concentrations at MTrPs.[13] Bradykinin is a nociceptive agent that stimulates the release of tumor necrosing factor and interleukins, some of which in turn can stimulate the further release of bradykinin. Calcitonin gene-related peptide modulates synaptic transmission at the neuromuscular junction by inhibiting the expression of AChE,which is another likely mechanism that contributes to the excessively high concentration of ACh.

Split fibers, ragged red fibers, type II fiber atrophy, and fibers with a moth-eaten appearance have been detected in MTrPs.[22] Ragged red fibers and moth-eaten fibers are also associated with muscle ischemia and represent an accumulation of mitochondria or a change in the distribution of mitochondria or the sarcotubular system respectively.

Combining these various lines of research, it can be concluded that MTrPs function as peripheral nociceptors that can initiate, accentuate, and maintain the process of central sensitizaton.[24] As a source of peripheral nociceptive input, MTrPs are capable of unmasking sleeping receptors in the dorsal horn, resulting in spatial summation and the appearance of new receptive fields, which clinically are identified as areas of referred pain. The MTrPs are commonly associated with other pain states and diagnoses, including complex regional pain syndrome, and should be considered in the clinical management.[25] Treatment of MTrPs is only one of the components of the therapeutic program, and does not replace other therapeutic measures, such as joint mobilizations, posture training, strengthening, etc. As MTrPs are easily accessible to trained hands, inactivating MTrPs is one of the most effective and fastest means to reduce pain. Dry needling is the most precise method currently available to physical therapists.

Myofascial trigger points can be identified by palpation only. There are no other diagnostic tests that can accurately identify an MTrP, although new methodologies using piezoelectric shockwave emitters are being explored.[26] Excellent inter-rater reliability has been established.[20,27] Simons, Travell, and Simons describe 2 palpation techniques for the proper identification of MTrPs. A flat palpation technique is used for example with palpation of the infraspinatus, the masseter, temporalis, and lower trapezius. A pincher palpation technique is used for example with palpation of the sternocleidomastoid, the upper trapezius, and the gastrocnemius.

Trigger point dry needling

Janet Travell pioneered the use of MTrP injections that eventually led to the development of dry needling. Her first paper describing MTrP injection techniques was published in 1942, followed by many others. Together with Dr. David Simons she wrote the 2-volume Trigger Point Manual.[3,28] Many studies have confirmed the benefits of trigger point injections even though a recent review article could not demonstrate clinical efficacy

beyond placebo.[5,29] In 1979 Lewit confirmed that the effects of needling were primarily due to mechanical stimulation of a MTrP with the needle.[30] Dry needling of a MTrP using an acupuncture needle caused immediate analgesia in nearly 87% of needle sites. In over 31% of cases, the analgesia was permanent. Twenty percent had several months of pain relief,22% several weeks, and 11% several days. Fourteen percent had no relief at all.[30]

Dry needling an MTrP is most effective, when local twitch responses (LTR) are elicited.[31] A LTR has been shown to inhibit abnormal end plate noise. Current (unpublished) research strongly suggests that a LTR is essential in altering the chemical milieu of an MTrP (Shah, 2004, personal communication). Patients commonly describe an immediate reduction or elimination of the pain complaint after eliciting LTRs. Once the pain is reduced, patients can start active stretching, strengthening, and stabilization programs. Eliciting a LTR with dry needling is usually a rather painful procedure. Post- needling soreness may last for 1 to 2 days, but can easily be distinguished from the original pain complaint. Patients with chronic pain frequently report to have received previous trigger point injections; however, many state that they never experienced LTRs. Accurate needling requires clinical familiarity with MTrPs and excellent palpation skills.

Dr. Peter Baldry has adopted the Travell and Simons trigger point model, but prefers a gentler and less mechanistic approach to needling MTrPs when possible. According to Baldry, using a superficial needling technique is nearly always effective. With superficial dry needling,the needle is placed in the skin and cutaneous tissues overlying an MTrP. Baldry agrees that both superficial and deep dry needling have their place in the management of MTrPs.[32] A recent study confirmed that both superficial and deep dry needling are effective with dry needling having a stronger and more immediate effect.[33]

Radiculopathy Model

In Canada,Dr.Chan Gunn developed his 'radiculopathy model' and coined the term 'intramuscular stimulation' instead of dry needling.[34] Gunn has expressed the belief that myofascial pain is always secondary to peripheral neuropathy or radiculopathy and therefore, myofascial pain would always be a reflection of neuropathic pain in the musculoskeletal system. Because of muscle shortening, which in this model is always due to neuropathy, 'supersensitive nociceptors'may be compressed,leading to pain. The radiculopathy model is based on Cannon and Rosenblueth's "Law of Denervation." According to this law, the function and integrity of innervated structures is dependent upon the free flow of nerve impulses to provide a regulatory or trophic effect. When the flow of nerve impulses is restricted, the innervated structures become atrophic, highly irritable, and supersensitive. Striated muscles are thought to be the most sensitive innervated structures and according to Gunn, become the "key to myofascial pain of neuropathic origin." Because of the neuropathic supersensitivity, Gunn states that muscle fibers "can overreact to a wide variety of chemical and physical inputs including stretch and pressure." The mechanical effects of muscle shortening may result in commonly seen conditions, such as tendonitis, arthralgia, and osteoarthritis. Shortening of the paraspinal muscles is thought to perpetuate radiculopathy by disc compression, narrowing of the intervertebral foramina,or by direct pressure on the nerve root.

Gunn found that the most effective treatment points are always located close to the muscle motor points or musculotendinous junctions. They are distributed in a segmental or myotomal fashion in muscles supplied by the primary anterior and posterior rami. In Gunn's model, MTrPs do not play an important role. Because the primary posterior rami are segmentally involved in the muscles of the paraspinal region, including the multifidi, and the primary anterior rami with the remainder of the myotome, the treatment must always include the paraspinal muscles as well as the more peripheral muscles. Gunn found that the tender points usually coincide with painful palpable muscle bands in shortened and contracted muscles. He suggests that nerve root dysfunction is particularly due to spondylotic changes. He maintains that relatively minor injuries would not result in severe pain that continues beyond a 'reasonable' period, unless the nerve root would already be in a sensitized state prior to the injury.

Gunn's assessment technique is based on the evaluation of specific motor, sensory,and trophic changes. The main objective of the initial examination is to determine which levels of neuropathic dysfunction are present in a given individual. The examination is rather limited and does not include standard medical and physical therapy evaluation techniques, including common orthopaedic or neurological tests, laboratory tests, electromyographic or nerve conduction tests or radiologic tests, such as MRI, CT scan, or even X-rays. Motor changes are assessed through a few functional motor tests and through systematic palpation of the skin and muscle bands along the spine and in the peripheral muscles of the involved myotomes. Gunn emphasizes to assess trophic changes in the paraspinal regions segmentally corresponding to the area of dysfunction. Trophic changes may include orange peel skin (peau d'orange), dermatomal hair loss,differences in skin folds, and moisture levels (dry vs. moist skin).[34]

Unfortunately, Gunn's radiculopathy model as a hypothesis to explain chronic musculoskeletal pain has not really been developed beyond its initial inception in 1973. Although Gunn has published numerous interesting case reports and review articles restating his opinions, most components of the model have not been subjected to scientific investigations and verification. In fact,many of Gunn's underlying assumptions are contradicted by more recent research findings. For example, Gunn's notion that persistent nociceptive input is uncommon contradicts many recent neurophysiological studies confirming that persistent and even relative brief nociceptive input can result in pain producing plastic dorsal horn changes.

The major contributions of Gunn to the field of MPS and dry needling are the emphasis on segmental dysfunction and the suggestion that neuropathy may be a possible cause of myofascial dysfunction. Certainly with regard to motor dysfunction associated with MPS, the combined impact of the primary anterior and posterior rami is an important consideration. For example, from a segmental perspective, it would be likely to see dysfunction of the C5-C6 paraspinal muscles when MTrPs are present in the more peripheral infraspinatus muscle.

The Spinal Segmental Sensitization Model

The Spinal Segmental Sensitization Model is developed by Dr.Andrew Fischer and combines aspects of Travell and Simons' trigger point model and Gunn's radiculopathy model.[35] Fischer proposes that the "pen-

tad of the vicious cycle of discopathy, paraspinal muscle spasm and radiculopathy"consists of paraspinal muscle spasm frequently responsible for compression of the nerve root, narrowing of the foraminal space,and a sprain of the supraspinous ligament with radicular involvement. Fischer advocates a comprehensive medical evaluation. According to Fischer, the most effective methods for relief of musculoskeletal pain include preinjection blocks, needle and infiltration of tender spots and trigger points, somatic blocks, spray and stretch methods, and relaxation exercises. Based on empirical observations,Fischer routinely infiltrates the supraspinous ligament,which "inactivates tender spots/trigger points in the corresponding myotome, relaxing the taut bands,and increasing the pressure pain thresholds as documented by algometry." The MTrP injections with Fischer's needling and infiltration technique are thought to "mechanically break up abnormal tissue" and "a layer of edema." The main differences between Fischer's and Gunn's approach are the extent of the physical examination, the use of injection needles by Fischer, and acupuncture needles by Gunn, Fischer's recognition of the importance of MTrPs, and the infiltration of the supraspinous ligament. Furthermore, Fischer's model seems more dynamic. He has integrated many new research findings into his approach;for example,Fischer acknowledges that central sensitization is often due to ongoing peripheral nociceptive input. Fischer's proposed interventions use multiple injection techniques and are therefore not that useful for physical therapists. As far is known, the Maryland Board of Physical Therapy Examiners is the only physical therapy board that has ruled that physical therapists may perform MTrP injections.

MECHANISMS OF DRY NEEDLING

Although muscle needling techniques have been used for thousands of years in the practice of acupuncture, there is still much uncertainty about their underlying mechanisms. The acupuncture literature may provide some answers, however, due to its metaphysical and philosophical nature, it is difficult to apply traditional acupuncture principles to the practice of using acupuncture needles in the treatment of MPS.

Mechanical Effects

Dry needling of an MTrP may mechanically disrupt the integrity of the dysfunctional motor end plates. From a mechanical point of view, needling of MTrPs may be related to the extremely shortened sarcomeres. It is plausible that an accurately placed needle provides a localized stretch to the contracted cytoskeletal structures, which may disentangle the myosin filaments from the titin gel at the Z-band. This would allow the sarcomere to resume its resting length by reducing the degree of overlap between actin and myosin filaments.

If indeed a needle can mechanically stretch the local muscle fiber, it would be beneficial to rotate the needle during insertion. Rotating the needle results in winding of connective tissue around the needle,which clinically is experienced as a 'needle grasp.' Comparisons between the orientation of collagen following needle insertions with and without needle rotation demonstrated that the collagen bundles were straighter and more nearly parallel to each other after needle rotation.[36] Langevin and colleagues report that brief mechanical stimulation can induce actin cytoskeleton reorganization and increases in proto-oncogenes expression, including cFos and tumor necrosing factor and interleukins.[36] Moving the needle up and down as is done with needling of a MTrP may be sufficient to cause a needle grasp and a resultant LTR. As a result of mechanical stimulation, group II fibers will register a change in total fiber length, which may activate the gate control system by blocking nociceptive input from the MTrP and hence cause alleviation of pain.[32]

The mechanical pressure exerted via the needle also may electrically polarize the connective tissue and muscle. A physical characteristic of collagen fibers is their intrinsic piezoelectricity, a property that allows tissues to transform mechanical stress into electrical activity necessary for tissue remodeling, possibly contributing to the LTR.[37]

Neurophysiologic Effects

In his arguments in favor of neurophysiological explanations of the effects of dry needling, Baldry concludes that with the superficial dry needling technique, A-delta nerve fibers (group III) will be stimulated for as long as 72 hours after needle insertion. Prolonged stimulation of the sensory afferent A-delta nerve fibers may activate the enkephalinergic inhibitory dorsal horn interneurons, which would imply that superficial dry needling causes opioid mediated pain suppression.[32]

Another possible mechanism of superficial dry needling is the activation of the serotonergic and noradrenergic descending inhibitory systems, which would block any incoming noxious stimulus into the dorsal horn.The activation of the enkephalinergic, serotonergic, and noradrenergic descending inhibitory systems occurs with dry needle stimulation of A-delta nerve fibers anywhere in the body.[32] Skin and muscle needle stimulation of A-delta and C-(group IV) afferent fibers in anesthetized rats was capable of producing an increase in cortical cerebral blood flow, which was thought to be due to a reflex response of the afferent pathway, including group II and IV afferent nerves and the efferent intrinsic nerve pathway, including cholinergic vasodilators.[38] Superficial needling of certain acupuncture points in patients with chronic pain showed similar changes in cerebral blood flow.[39]

Gunn's and Fischer's techniques of needling both the paraspinal muscles and peripheral muscles belonging to the same myotome, appear to be supported by several animal studies. For example,Takeshige and Sato determined that both direct needling into the gastrocnemius muscle and into the ipsilateral L5 paraspinal muscles of a guinea pig resulted in significant recovery of the circulation, after ischemia was introduced to the muscle using tetanic muscle stimulation.[40] They also confirmed that needling of acupuncture points and non-acupuncture points involved the descending pain inhibitory system, although the actual afferent pathways were distinctly different. Acupuncture analgesia involved the medial hypothalamic arcuate nucleus of the descending pain inhibitory system, while non-acupuncture analgesia involved the anterior part of the hypothalamic arcuate nucleus. In both kinds of needle stimulation, the posterior hypothalamic arcuate nucleus was involved. There is no research to date that clarifies the role of the descending pain inhibitory system with needling of MTrPs.

Chemical Effects

The studies by Shah and colleagues demonstrated that the increased levels of various chemicals, such as bradykinin, CGRP, substance P, and others, at MTrPs are immediately corrected by eliciting a LTR with an acupuncture needle. Although it is not known what happens

to these chemicals when a needle is inserted into the MTrP, there is now strong albeit unpublished data that suggest that eliciting a LTR is essential.[13]

STATUTORY CONSIDERATIONS

Whether from a legal or statutory perspective, physical therapists can perform dry needling techniques, has not been considered in most states. However, the physical therapy state boards of Maryland, New Mexico, New Hampshire, and Virginia have officially determined that dry needling falls within the scope of physical therapy practice in those states.

Dry needling by physical therapists must be regulated by state boards of physical therapy and not by state boards of acupuncture or oriental medicine. Dry needling is not equivalent to acupuncture and should not be considered a form of acupuncture. For example,the New Mexico Acupuncture and Oriental Medicine Practice Act[a] defines acupuncture as "the use of needles inserted into and removed from the human body and the use of other devices,modalities and procedures at specific locations on the body for the prevention,cure or correction of any disease, illness, injury, pain, or other condition by controlling and regulating the flow and balance of energy and functioning of the person to restore and maintain health."

Obviously, dry needling involves the use of needles inserted into and removed from the human body; however, that is the only similarity between dry needling and acupuncture. Similarly, if a hammer is associated with carpenters, do plumbers become carpenters every time they use a hammer? The objective of dry needling is not to control and regulate the flow and balance of energy and is not based on Eastern esoteric and metaphysical concepts. The fact that needles are being used in the practice of dry needling does not imply that an acupuncture board would automatically have jurisdiction over such practice. If so, physicians and nurses would also need to conform to the statutes of acupuncture, as they also "insert and remove needles."

Many boards of physical therapy in the United States have adopted a variation of the "Model Practice Act for Physical Therapy" developed by the Federation of State Boards of Physical Therapy (http://www.fsbpt.org). Neither the Model Practice Act or any of the actual state practice acts address whether dry needling falls within the scope of physical therapy practice. However, based on the definitions of physical therapy practice, dry needling may well fall within the scope of practice in nearly all states. The respective statutes commonly include statements like "the practice of physical therapy means administering treatment by mechanical devices," "mechanical modalities," or "mechanical stimulation." Exclusions to the practice of physical therapy are frequently defined as "the use of roentgen rays and radioactive materials for diagnosis and therapeutic purposes, the use of electricity for surgical purposes, and the diagnosis of disease." Most state physical therapy acts do not specifically prohibit the use of needles.

Whether physical therapists are legally allowed to penetrate the skin has been addressed in few statutes and usually only in the context of performing electromyography and nerve conduction tests. The Model Practice Act does include "electrodiagnostic and electrophysiologic tests and measures." For example, the Missouri Revised Statutes[b] indicate that "physical therapy [...] does not include the use of invasive tests," yet, the statutes state specifically "physical therapists may perform electromyography and nerve conduction test" even though they "may not interpret the results." The California Physical Therapy Act[c] does address the issue of "tissue penetration:" "A physical therapist may, upon specified authorization of a physician and surgeon, perform tissue penetration for the purpose of evaluating neuromuscular performance as part of the practice of physical therapy [...] provided the physical therapist is certified by the board to perform tissue penetration and provided the physical therapist does not develop or make diagnostic or prognostic interpretations of the data obtained." It is not clear whether the California practice act would allow dry needling at this time. In any case, it appears that physical therapists would need to be certified by the board to perform tissue perforation.

The definition of physical therapy practice in the 2004 Florida Statutes[d] includes "the performance of acupuncture only upon compliance with the criteria set forth by the Board of Medicine, when no penetration of the skin occurs."The Florida board does not indicate how acupuncture or for that matter, dry needling, would be performed without penetrating the skin and this remains a mystery. Interestingly, the physical therapy practice act in Florida does include "the performance of electromyography as an aid to the diagnosis of any human condition."

In order to practice dry needling, physical therapists would have to be able to demonstrate competency or adequate training in the examination and treatment of persons with MPS and in the technique of dry needling. Many statutes address the issue of competency by including language like "a physical therapist shall not perform any procedure or function for which he is by virtue of education or training not competent to perform." Obviously, physical therapists employing dry needling must have excellent knowledge of anatomy and be very familiar with the indications, contraindications, and precautions.

In summary, most physical therapy practice acts may allow dry needling, according to the various definitions of "practice of physical therapy." Whether individual state boards would interpret their statutes in a similar fashion as the Maryland, New Mexico, New Hampshire, and Virginia physical therapy state boards have, remains to be seen.

[a] New Mexico Statutes Annotated 1978, Chapter 61, Professional and Occupational Licenses, Article 14A, Acupuncture and Oriental Medicine Practice, 3, Definitions

[b] Missouri Revised Statutes, Chapter 334, Physicians and Surgeons – Therapists – Athletic Trainers, Section 334.500, Definitions

[c] California Business and Professions Code, Division 2, Healing Arts, Chapter 5.7, Physical Therapy, Section 2620.5

[d] The 2003 Florida Statutes, Title XXXII, Regulation of Professions and Occupations, Chapter 486, Physical TherapyAct,Section 486.021,Definitions, 11,Practice of Physical Therapy

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