## Gua sha 2-day Practicum Syllabus PCOM SYMPOSIUM 2016 Arya Nielsen, PhD

## Syllabus: Tuesday October 25th

- 9 AM sign in and Demo of Gua sha
- 9:15 to 10:45 Lecture. Science of Gua sha with updates, questions

## <u>10:45- 11:10 Break</u>

- 11:15 to 12:15 Lecture Safety Guidelines Gua sha and Ba guan
- 12:15-12:30 *Tongue observation* Break into groups of 3, record tongues before lunch and after which will serve as BEFORE status of Tongue

## 12:30 to 2:00 Lunch

2:00 to 3:30: Gua sha Tools: positions of instruments. Practice on own arm. Checked by instructor

Instruction: application of Gua sha to Upper body

Treatment in groups of 3 to upper body

Check by instructor

Tongue observation of changes

## <u>3:30 to 3:45 Break</u>

3:45 to 4:45 pm

Finish applications to upper body

Note observations, questions

**Results and Recommendations** 

4:45 -5:00 pm Personal questions

## Syllabus Day 2 Wednesday October 26

- 9:00 AM sign in, questions, discussion
- 9:15-10:45 Lecture: Cautions and Contraindications

## 10:45-11:10 Break

- 11:15 to 12:30 Demonstration and instruction Gua sha application mid body, lower body in prone positions, standing, leaning and lateral recumbent.
- ID groups of 3, record tongues before lunch and after which will serve as BEFORE Tongue

12:30 to 2:00 Lunch

2:00 to 3:30

Practicum mid and lower body

Tx in groups of 3

Check by instructor

Tongue: observation of changes

## 3:30 to 3:45 Break

3:45 to 4:45 pm Clinical significance of colors of sha, Tongue changes. Discussion of frequency and dosage of Gua sha in specific disorders.

## 4:45-5:00 pm Personal questions

Dr Nielsen has been in practice for over 40 years and is past chair of the New York State Board for Acupuncture. She is the author of *Gua Sha, A Traditional Technique for Modern Practice*, Churchill Livingstone, 1995, revised 2013; (also in German, French, Italian) and *Gua Sha: Step-by-Step a teaching DVD*. She lectures on Classical Chinese medicine and topics related to Integrative practice in the US and Europe and can be contacted by email at anielsen@chpnet.org or at her website www.guasha.com

Dr. Nielsen is also Vice Chair of the Policy Working Group for the Academic Consortium for Integrative Medicine & Health (<u>https://www.imconsortium.org/</u>)

Dr. Arya Nielsen is an Assistant Clinical Professor with Icahn School of Medicine at Mount Sinai, Department of Family Medicine and Community Health. She developed and directs the Acupuncture Fellowship for Inpatient Care at Mount Sinai Beth Israel, a post graduate opportunity where licensed acupuncturists round with physicians and treat patients across hospital Departments. Her research includes both the physiology and therapeutic effect of Gua sha and 'acupuncture therapies' for acute and chronic pain, acute care and inpatient setting.



## Safety

Reports, Risks and Guidelines for Gua sha (press-stroking) and Ba guan (cupping)

Arya Nielsen, PhD Icahn School of Medicine at Mount Sinai Department of Family Medicine & Community Health New York, NY

## Definition: Gua sha

#### Instrument-assisted

(closely-timed) unidirectional press-stroking of a lubricated area of body surface

that intentionally creates transitory therapeutic petechiae representing extravasation

of blood in the subcutis.







## Harms are opposite of benefits

- Does effect require treatment/attention?
  - Is their harm?
- Some reactions are reported as adverse
  - May be intended and therapeutic
  - May be incidental, common and harmless
  - May be unintended but not harmful



## Risk reports real and imagined



During a routine examination, a 33-yearold Korean woman was incidentally found to have lesions on her back in various stages of healing. The lesions had been created when a friend applied heated cups to the skin to treat back pain. The vacuum created as the cup cools results in erythema, edema, and ecchymosis of the skin, which take several weeks to heal. The patient was unconcerned about these effects of "cupping" and **requested no intervention**.

Manber H, Kanzler M. Consequences of Cupping. NEJM. 1996;335:1281.







## Potential adverse effects

- Delay in care
- Complication
- Negligence, error
  - Injury
  - Infection
- · Short-lived and mild reactions



Kim et al. 2012 suggest that traditional medicine by non licensed practitioners in Korea risks delay in medical care.

Kim KH, Kim T-H, Hwangbo M, Yang GY. Anaemia and skin pigmentation after excessive cupping therapy by an unqualified therapist in Korea: a case report. Acupunct Med. 2012;30(3) (September):227-228.



Kim KH, Kim T-H, Hwangbo M, Yang GY. Anaemia and skin pigmentation after excessive cupping therapy by an unqualified therapist in Korea: a case report. Acupunct Med. 2012;30(3) (September):227-228

A case is reported of *skin pigmentation and associated anemia* resulting from persistently repeated cupping therapies performed by an *unqualified practitioner* in South Korea. Almost 30 sessions of *excessive cupping therapies with bload loss* over two months yielded little benefit but led the patient to admit a hospital and receive blood transfusion for *acquired iron deficiency anemia*. Skin pigmentation on the cuppingattached region remained without any subjective discomfort. We suggest the importance of qualified health professionals when receiving cupping treatments.



Nielsen A, Kligler B, Michalsen A, Dobos G. Did dry cupping cause anaemia? Acupunct Med. 2013 March 13.

- 1. No blood loss established with dry cupping
- 2. Hyperpigmentation does not imply anemia
- Patient had seen doctors for her pain related to lumbar stenosis, i.e. cupping in no way delayed conventional care.
- The author's report is based on seeing the patient 3 months after tx for anemia; were not involved with the patient and did not evaluate cause of anemia.
- 5. These same authors countered cupping/anemia association by Yun et al. 2011



- Suggest that iron deficiency anemia (IDA) of unknown cause may be from wet cupping.
- No evidence to support claim for widespread anemia/cupping connection.
- May be effort to control traditional medicine practice in Korea by implicating harm.



## Anemia complications/errors

- 1. Male 39 bloodletting cupping therapy for chronic musculoskeletal pain for approximately 6 months
- Lee HJ, Park NH, Yun HJ, Kim S, Jo DY. Cupping therapy-induced iron deficiency anemia in a healthy man. Am J Med. 2008;121(8) (August):5-6.
- Female 66 had used cupping, called 'puhang' in Oriental medicine, at home for more than 10 years for relief of non specific pains. *Puhang* is often used on the acupuncture points to remove 'bad' blood (a bloodletting type).

Sohn I-S, Jin E-S, Cho J-M et al. Bloodletting-induced cardiomyopathy: reversible cardiac hypertrophy in severe anemia from long-term bloodletting with cupping. *Eur J Echocardiogr.* 2008;9(5) (September):585-586.



## Cupping review of AE

- Review of cases represented as studies
- Cite 5 cases of anemia (possible, not probable)
- 1 probable case was dry cupping and not even possible as a cause (same authors)
- 2 herpes (only 1 actually cited)
- Incomplete and poor review

Kim T-H, Kim KH, Choi J-Y, Lee MS. Adverse events related to cupping therapy in studies conducted in Korea: A systematic review. European Journal of Integrative Medicine. 2014;6(4) (8//):434-440. 2012 Systematic review No serious adverse effects reported in 135 clinical trials

Cao H, Li X, Liu J. An updated review of the efficacy of cupping therapy. *PLoS One*. 2012;7(2):31793.



Rare Complication: Acquired Hemophilia A associated with therapeutic cupping.

Typically associated with autoimmune disease, allergic drug reactions, malignancies, pregnancy; higher risk in depression and anxiety.







Weng Y-M, Hsiao C-T. Acquired hemophilia A associated with therapeutic cupping. *Am J Emerg Med.* 2008;26(8) (October):970-971.

#### Cupping to neck eventuates stroke?

- Sudden rise in BP? (no evidence)
- Dissection in presence of an intimal tear
  Tear of inner lining of artery
- Micro-inclusions intensify local stress concentration for a 'thin cap'
- =pre-existing conditions

Blunt SB, Lee HP. Can traditional "cupping" treatment cause a stroke? Med Hypotheses. 2010;74(5) (May):945-949.

### Teen Reportedly Dies From His Girlfriend's Hickey

The suction on a major artery created a blood clot that likely created a blood clot that traveled to his brain resulting in a stroke (he was 17, the girlfriend 24)

> http://www.huffingtonpost.com/entry/teen-dies-hickeystroke\_us\_57c5f288e4b0e60d31dc03e7

Bullae 'prolonged' or 'excessive' cupping





Mataix J, Belinchon I, Banuls J, Pastor N, Betlloch I. [Skin lesions from the application of suction cups for therapeutic purposes]. Actas Dermosifiliogr. 2006;97(3) (April):212-214

Tuncez F, Bagci Y, Kurtipek GS, Erkek E. **Suction bullae** as a complication of prolonged cupping. *Clin Exp Dermatol.* 2006;31(2) (March):300-301.

Turkey; 57 year old diabetic woman, cupping for low back pain; cups left in place for 40 minutes

Lin C-W, Wang JT-J, Choy C-S, Tung H-H. latrogenic bullae following cupping therapy. J Altern Complement Med. 2009;15(11) (November):1243-1245.

Subject was cupped on his private jet and the bullae resulted from 'changes in atmospheric pressure related to unexpected descent of airplane'.



## Bullae from cupping 'prolonged' or 'excessive'



Aftercare: Sterile dressings with antibiotic ointment applied

Completely resolved in 2 weeks

Peng C-Z, How C-K. Bullae secondary to prolonged cupping. Am J Med Sci. 2013;346(1) (July):65.



#### Reported as 'coining' complication





#### ...alcohol and oil that was painted on her back was accidentally set on fire...

Figure 12 Areas depicted as 'protected from burns' by the coins associated with coining. The three areas in question are much larger than any coin but coincide with the size of large cups used for fire cupping. The authors confuse coining with fire cupping and mistakenly associate coining with burns.

Amshel and Caruso 2000. Vietnamese 'coining'. A burn case report and literature review. *J Burn Care Rehabil* 2000;21(2) (Mar-Apr):112-4.

> =CUPPING NEGLIGENCE

## Factitial panniculitis 54 year old Korean woman



- Myalgia
- Tx with acupuncture & cupping
   Upper and lower extremities
- Red nodules, inflammation and signs of cupping
- Inflammation fatty layer under skin

Lee J, Ahn S, Lee S. Factitial panniculitis induced by cupping and acupuncture. *Cutis*. 1995;55:217-218



## Burns/negligence

Sagi A, Ben-Meir P, Bibi C. Burn hazard from cupping—an ancient universal medication still in practice. Burns Incl Therm Inj. 1988;14(4) (August):323-325.

Amshel and Caruso 2000. Vietnamese 'coining'. A burn case report and literature review. J Burn Care Rehabil 2000;21(2) (Mar-Apr):112-4.

Kose AA, Karabagli Y, Cetin C. An unusual cause of burns due to cupping: complication of a folk medicine remedy. *Burns*. 2006;32(1) (February):126-127. (practitioner: self; recovered 11 days)

Kulahci Y, Sever C, Sahin C, Evinc R. Burn caused by cupping therapy. *J Burn Care Res.* 2011;32(2) (April):31. (practitioner: mother; recovered)

## Panniculitis



• Panniculitis = fatty layer inflammation

- <u>Factitial</u> (self-inflicted) panniculitis can be produced by mechanical, physical or chemical means: i.e. selfinoculation or mechanical trauma typical.
- Self limiting; fades like a bruise w/in 6 weeks
  Need to distinguish cause to r/o disease or infection.
- Avoid further cupping over area
- If infected, needs surgery consult

Moon S-H, Han H-H, Rhie J-W. **Factitious panniculitis** induced by cupping therapy. *J Craniofac Surg*. 2011;22(6) (November):2412-2414.



A 56-year-old woman presented with a 10-month history of multiple masses in the posterior neck and right shoulder areas. The patient repeatedly attempted cupping therapy by herself, and multiple palpable masses developed in the posterior neck and right shoulder area...masses were enlarged by repeated cupping, and they decreased in size when cupping was stopped. Among all lesions, the 2 masses with tenderness were surgically excised. The remaining masses resolved after cupping therapy was ceased.

When a patient with subcutaneous mass has a history of cupping or trace of cupping marks, panniculitis induced by cupping should be suspected. The lesion seems to spontaneously resolve unless they are repeatedly stimulated. However, surgical resection is considered in patients with infections or severe tenderness as a complication.

## Keloid from cupping

Turkey, being treated for cough

Patient had no history of keloids

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Birol A, Erkek E, Kurtipek GS, Kocak M. Keloid secondary to therapeutic cupping: an unusual complication. *J Eur Acad Dermatol Venereol*. 2005;19(4) (July):507. Köebner phenomenon induced by cupping therapy





Yu RX, Hui Y, Li CR. Köebner phenomenon induced by cupping therapy in a psoriasis patient. Dermatol Online J. 2013;19(6) (Jun 15):18575.

Vender R, Vender R. Paradoxical, cupping-induced localized psoriasis: a Köebner phenomenon. J Cutan Med Surg. 2015;19(3) (May-June):320-2.

## Infection from Ba guan cupping



• Frequency of HTLV-I infection in Iran related to age, marital status, education, hx blood transfusion, traditional cupping and hospitalization.

Rafatpanah H, Hedayati-Moghaddam M, Fathimoghadam F et al. High prevalence of HTLV-I infection in Mashhad, Northeast Iran: A population-based seroepidemiology survey. J Clin Virol. 2011;52(3) (November 16):172-6.

- Reports of infection risk from traditional 'hijamah' that involves scarification and (wet) cupping.
  - Prophet Mohammed approved use of Hijamah as a therapeutic measure.
  - Abinali describes a 'cupper' who was Hep B positive.
  - Abinali HA. Traditional medicine among Gulf Arabs: Part II Blood-letting. Heart Views. 2004;58(20):74-85.

#### Infection Ba guan cupping



- Staphylococcus aureus after cupping and acupuncture.
  - S. aureus colonization is common with chronic eczema.
  - As is use of topical steroids, and abx.

Hon KL, Luk D, Leong K, Leung A. Cupping therapy May be Harmful for Eczema: a PubMed Search. Case Rep Pediatr. 2013;605829 (Oct 27).

This 11 yr old girl also had high serum IgE, hx asthma and rhinitis. After tx with cupping and acupuncture she developed blistering ulcers and had to be txed in hospital.



#### 'Eczema is not just eczema any more'

- Modern context: must consider hx condition & medicines
- What the patient has been prescribed or uses OTC
- A 'simple' diagnosis is no longer simple
- Clinic support PDR App: epocrates

## Staphylococcus aureus

- S. aureus
  - 40% are colonized/carrier (up from 1 in 3)
  - Skin, nose, mouth
- MRSA Methicillin resistant S. aureus
  - 1 in 10 is colonized/carrier
  - Not more infectious that S. aureus
  - More difficult to treat

## Symptoms

- Colonized/carrier may exhibit no sxs
- Skin: boils, pimples, abscesses
  - Swollen, red, painful, may have pus
- Can infect wounds, prevent healing
- Can cause blood infection (septicemia)
- Be related to 'food poisoning'
- Infect organs, bone (osteomyelitis), heart valve/lining (endocarditis), lung (pneumonia), can create internal abscess

## Patients at Increased Risk for Infection

- Patient has had surgery
  - Contaminated hospital equipment
- Increases over age 65
  - Hospital or intensive care
- · Weakened immune system/illness or meds
- Altered skin barrier as in eczema
- Through open wound, burns, cuts
   (avoid suction bullae with cupping)
- Injection / acupuncture

## Reconsider tx for eczema

- Rethink balance of benefits & harms
- Common Western tx greatly increases risk
  - Steroids and repeated abx
  - Fosters colonization of SA and MRSA
- Common to needle or plum blossom eczema lesions
  - ≠ Acupuncture, plum blossom, tapping
  - $\neq$  Cupping or Gua sha



- Avoid treating into area
- Or near if patient has used steroid or abx ointments

## **Ethical considerations**

- Do you, the practitioner, have SA or MRSA?
- Should you be treated?
- Do you question patients re MRSA or SA infection/colonization?
- Do you question patients re hx eczema / dermatitis?

Jung Y-J, Kim J-H, Lee H-J et al. A herpes simplex virus infection secondary to **acupuncture** and **cupping**. Ann Dermatol. 2011;23(1) (February):67-69.



# 0

 Epidural abscess after cupping and acupuncture therapies is quite rare. Only a few cases of epidural abscess after acupuncture have been reported. The present report describes a case of a 47-year-old woman with cervical epidural abscess presenting as swelling and pain that developed after cupping and acupuncture seen on MRI.

Neck abscess

 A symptoms resolved after treatment with antibiotics.. Therapists need to be aware of human anatomy in the vicinity of the puncture and must give continuous attention to hygiene throughout the procedure.

Lee J-H, Cho J-H, Jo D-J. Cervical epidural abscess after cupping and acupuncture. Complement Ther Med. 2012;20(4) (August):228-231.

- Arabic: scarification wet cupping
- Authors describe in terms of Chinese medicine but case was in Turkey and performed by 'hajjam', cupper.

Lumbar abscess from 'hijamah'

Turtay MG, Turqut K, Oguzlurk H. Unexpected lumbar abscess due to scarification wet cupping: A case report. Complement Ther Med. 2014;22(2) (Aug):645-7





## Abdominal infection

- Cupping to abdomen for constipation
- 3 months later presented w/50mm infectious area; surgically removed and txed
- 1 year later presented with lesions at original and additional abdominal sites



Lee S, Sin J, yoo H, Kim T, Sung K. Cutaneous Mycobacterium massiliense infection associated with cupping therapy. *Clin Exp Dermatol.* 2014;39(8):904-7.

#### Adverse events related to cupping

- Rare complication
  - Hemophilia A
  - 'Stroke'[?]
- Adverse events
  - Keloid scar
  - Panniculitis
- Errors
  - Bullae from prolonged / excessive cupping
  - Burns from negligence
  - Anemia from excessive wet cupping
  - Cardiac hypertrophy, excessive wet cupping
  - Infection: S. aureus, Herpes simplex, HTLV-1, Hepatitis B





Primary complications related to Gua sha are misdiagnosis by physicians. Cao gio mistaken for burns Coining mistaken for torture

Kos Khyal 'caused' a brain bleed Spooning mistaken for child abuse Abuse then termed 'pseudo-abuse'

=Culturally biased 'negative register'.

See Module: Safety, Medical Errors and Ethics: 'Complications and Contraindications'







Odhav A, Patel D, Standofre C, Hall J. Report of a case of gua sha and an awareness of folk remedies. *Int J Dermatol*. 2013;52(7) (Jul):892-3

#### Press-stroking and ecchymosis

Aprile A, Pomara C, Turilazzi E. Gua Sha a traditional Chinese healing technique that could mimick physical abuse: A potential issue with forensic implications. A case study. *Forensic Sci Int.* 2015;249:e19-20

#### Blunt force trauma, skin lesions from dermabrasion Tanner B, Catanese C, Lew E, Rapkiewicz A. Pitfalls in the Interpretation of Traumatic Socioethnic Practices. *J Forensic Sci.*

2016;61(2) (March):569-72.

Gua sha: a Traditional Technique for Modern Practice Table 2.1					
Terms	Definition	Comments	Citations of articles using terms		
Dermabrasion	A painful technique for removing scars or tattoos where the surface of the skin is removed by abrasion: sanding or wire brushing. Skin is red, raw and takes several weeks to months to heal.	The skin remains in tact with <i>Gua sha</i> . There is no abrasion; the ecchymosis fades completely in 2-4 days.	Golden and Duster (1977), Kemp (1985), Dinulos and Graham (1999), Davis (2000), Tanner et al. 2016		



## Safety Gua sha & Ba guan

There is risk of exposure to and transfer of

**bloodborne pathogens** for both the patient and practitioner.

Established with Ba guan...











Blood tinged lubricant on Gua sha tools implicates presence of fluids even if not seen



## Wet or dry cupping

- Evidence of transfer of blood borne pathogens
- Obvious with wet cupping
- Risk exists even if you do not see evidence of blood with naked eye

## Centers for Disease Control CDC

- Categorize medical instrument criticality
  - Critical items
  - Semi-critical items
  - Non-critical items



## **Critical items**



- Critical items are objects that enter sterile tissue or the vascular system and must be sterile because any microbial contamination could transmit disease (CDC)
- They require sterilization prior to re-use
- Critical instruments may not be 'dedicated', that is, saved and labeled for use in a single patient without sterilization.



## Semi-critical items

- Semi-critical items are those that make contact with non-sterile mucous membranes or non-intact skin and
- Require sterilization if possible or high-level disinfection (HLD) prior to re-use.
- Semi-critical instruments <u>may not</u> be 'dedicated'.

## Non-critical items

- Non-critical instruments contact intact skin
- Require intermediate or low level disinfection prior to re-use.
- Some non-critical instruments are allowed to be dedicated for reuse in a single patient but not without required disinfection.



## Visible blood contamination (video clip)







- Gua sha and Ba guan instruments have been mistaken as non-critical
  - Because they appear to contact 'intact' skin
- Application contact involves enough repeated and sustained pressure as to (intentionally) cause extravasation of blood and fluid that can seep or be let from the skin even if not immediately visible.

## **Medical Instruments**

- Semi-critical items (require HLD)
  - Gua sha instruments
  - Cups used for dry cupping
- Critical items (require sterilization)
  - Cups used for wet cupping
     clear contact with blood and fluids









## **Common practices**

- Hand washing with soap and water is NOT SUFFICIENT
- Dishwasher cleaning of instruments is
   NOT SUFFICIENT
- Cleaning with alcohol is NOT SUFFICIENT
- Cleaning or soaking with Clorox bleach is NOT SUFFICIENT





## For reuse of instruments

<u>High level disinfection</u>: for reuse of instruments where there has been incidental exposure to fluids or blood

<u>Sterilization</u> for instruments with apparent blood and fluids









#### Sporox<sup>®</sup> II Sterilizing and Disinfecting Solution



Sterilizing and Disinfecting Solution Powerful hydrogen peroxide-based sterilant and <u>high-level disinfectant</u> for heat-sensitive instruments.

•Provides effective infection control without irritating glutaraldehydes

 Ready to Use – No Mixing, heating or activation required No noxious odors, safe for your staff Will not bond infectious proteins to instruments like glutaraldehydes Sterilization is achieved in 6 hours, <u>High-level disinfection in 30 minutes</u> Solution can be re-used for up to 21 days Nielsen A, Kligler B, Koll BS. Safety protocols for Gua sha (press-stroking) and Baguan (cupping). Complement Ther Med. 2012;20(5) (October):340-344.



Nielsen A, Kligler B, Koll BS. Addendum: Safety Standards for Gua sha (press-stroking) and Ba guan (cupping). Complement Ther Med. 2014;22:446-448.





## Sequencing

- Consider proper sequencing of steps
  - Palpation
  - Needling
  - Glove to remove needles
  - Separate a portion of lubricant for a patient or use a pump dispenser
  - Apply lubricant and Gua sha
  - Use paper towel to remove excess oils
  - Remove and dispose of gloves





## Recommended

- Create a separate disinfection staging area
- · Glove during procedure
- Move used instrument to staging area
- Wash instrument with soap and water immediately after use
- Decontaminate with effective product
  - Alcohol is not sufficient
  - Chlorine bleach is not sufficient
  - Or dispose of instrument







## Safe Gua sha

- Know indications and contraindications
- Know the literature/research on Gua sha
- Know steps for safe practice/disinfection
- Develop application skills
- Practice communication skills
  - Explaining Gua sha as you treat
  - Giving Gua sha handout





## Contraindicated

• Gua sha and Ba guan should not hurt i.e.

- Develop adept technique
  - Do not over treat
  - Do not apply too much pressure

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### Do not Gua sha if there is a

- Compromised Surface
  - Sunburn
  - Rash, pimples or eruptions
  - Abrasion
  - Swelling, recent injury
  - Moles, raised bumps
  - Previous sha that has not faded

• Do not Gua sha directly over the trachea



#### **Contraindications** Clarification • Is Gua sha contraindicated? Gua sha may be applied in • Pregnancy? • Diabetes • With anti coagulant therapy? • Patients with or being treated for cancer • Hemophilia or Von Willebrand's? • Elderly or weak patients • Elderly or weak patient? • Infants and children • Patients with severe illness? With considerations and cautions • Patients having chemo? • Women who are menstruating?





- Angiomax
- Argatroban
- Arixtra
- Atryn
- Coumadin
- Eliquis
- Enoxaparin
- Fondaparinux
- Fragmin



- Heparin • Innohep
- Iprivask
- Jantoven
- Lovenox
- Pradaxa
- Refludan

- TrhobateIII Warfarin



## Most common:

- Aspirin
- Plavix

## Anti apoptotic effect



- If Gua sha prevents apoptosis/cell death
- When would you not apply Gua sha?
- Do not apply 48 hours before or 24 hours after chemotherapy
  - · Chemo works by killing cells
  - Gua sha like other anti oxidative therapy supports health/may mitigate chemo
- Only use Gua sha if needed
  - Pain
  - Respiratory sxs / chemo term

## Do not Gua sha over



#### Obvious sensitive structures

- EyesGenitals
- CV 22-23
- At left: epiglo



At left: epiglottitis from misapplication of Gua sha

#### Communication re treatment



- ✓ Always treat children in the presence of a responsible adult
- ✓ Always give a handout that explains Gua sha or Baguan with your contact information
- $\checkmark\,$  Recommend further reading if there is interest







## **GUA SHA CERTIFICATION** with Arya Nielsen, PhD

The Gua sha Certification Course with Dr. Arya Nielsen is a professional educational opportunity to study with the Western authority on this healing technique.

The course has 50 CME/CEU/PDA approval and includes lectures divided into subject areas and a hands-on practicum with Dr. Nielsen.

Course completion affords the participant a Certificate in Gua sha with Dr. Nielsen and listing as a Gua Sha practitioner.



For more information, visit: www.prodseminars.com/guasha



direct book orders

- Module 5 Safety, Medical Errors & Ethics: 'Complications' & Contraindications for Gua sha (5 CEU/PDA/CPD)
- Module 6 Evidence for Gua sha: a Literature Review (6 CEU/PDA/CPD)
- Module 7 Colors of Flesh, Sha and Significant Tongue Changes (6 CEU/PDA/CPD)
- Module 8 - Psycho Spiritual Effect of Gua sha (3 CEU/PDA/CPD)
- Module 9 Indications and Applications: Gua sha (6 CEU/PDA/CPD)

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- Module 10 - Results and Recommendations (4 CEU/PDA/CPD)
- Module 11 Treating Specific Disorders with Gua sha (5 CEU/PDA/CPD)

#### Gua sha Certification Course Modules

Acupuncture Therapy: Risks and Harms Ethics: Professional Standards

Inpatient and Hospital-based Acupuncture Therapy Arya Nielsen, PhD and Claudia Citkovitz, PhD 'Acupuncture Therapies' as nonpharmacologic options for acute and chronic care

www.ProDseminars.com



## Safety for Gua sha (press-stroking) and Baguan (cupping)

With Gua sha and Baguan there is risk of exposure to and transfer of blood borne pathogens for the patient and practitioner. Currently there are no reports of complications related to Gua sha other than the risk of misdiagnosis by physicians. There are reports in the literature of transfer of herpes simplex to a patreated with acupuncture and dry cupping. Blood cells are extravasated with both Gua sha and Baguan, and therefore standards for disinfection must follow. It is recommended to consider decontamination staging, sequencing of procedure and decontamination/sterilization process itself. If intending to re use instruments <u>high level disinfection</u> is necessary where there has been incidental exposure to fluids or blood; <u>sterilization</u> is required for instruments with apparent blood and fluids as in wet-cupping. Alcohol, chlorine bleach or 'washing in a dishwasher' are not sufficient.

## **Decontamination Staging**

Set up an area to disinfect or sterilize in a practice or school:

- Create a staging area for disinfection away from patients so soiled instruments are not mixed with patient-ready instruments.
- Keep the area decontaminated with a hospital grade surface decontaminant.

## Sequencing steps for Gua sha in practice

- Wash hands before touching patient to palpate or needle
- Glove to remove needles
- Separate a portion of lubricant for a patient or use a pump dispenser
- Apply lubricant and perform Gua sha preferably with <u>a disposable metal cap\*</u>
- Use paper towel to remove excess oils
- Remove and dispose of gloves
- Always provide a Gua sha handout

## Procedure to disinfect or sterilize

- Wash instruments with soap and water in staging area
- Immerse instruments in 7.5 % Hydrogen peroxide solution: Sporox® II Sterilizing and Disinfecting Solution
  - 30 minutes: high level disinfection
  - 6 hours: complete sterilization
  - [Note: hydrogen peroxide sold in pharmacies is not strong enough at 3%]

\*Cow or water buffalo horn instruments will degrade from disinfection and should not be re used. Plastic instruments may also pit and degrade and are not recommended for reuse.



http://www.sultanhc.com

For Gua sha, you can also dispose of instruments (caps) after one use. One would still

- Glove during procedure
- Wash instrument with soap and water immediately after use
- Dispose of Gua sha instrument

For information and Gua sha handout consult www.guasha.com or Dr. Nielsen's text, listed below.

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## Gua sha

Traditional medicine for pain, inflammation and immune support

*Gua sha* is an important hands-on medical treatment that has been used throughout Asia for centuries. *Gua* means 'to rub' or 'press stroke. *Sha* is a term that describes the blood congestion in surface tissue in areas where the patient may experience stiffness and pain; *sha* is also the term for the little red dots that are raised from applying *Gua sha* (Nielsen 2012). When *Gua* press-stroking is applied in repeated even strokes, *sha* appears as small red dots called 'petechiae' and the pain immediately shifts. In minutes the small red dots fade into blended reddishness. The *sha* disappears totally in two to three days after treatment. The color of *sha* and rate of fading can indicate important information about a patient's condition. Pain relief lasts even after the *sha* is completely gone.

The benefits of *Gua sha* are numerous. It resolves spasms and pain, and promotes normal circulation to the muscles, tissues and organs, as seen in *Gua sha's* immediate effect on coughing and wheezing. Research has shown that *Gua sha* causes a four-fold increase in microcirculation of surface tissue (Nielsen et al. 2007) and can reduce inflammation and stimulate the immune system (Braun et al. 2011; Chan et al. 2011). Gua sha upregulates heme-oxygenase-1 (HO-1), that acts to reduce internal organ inflammation, for example, in cases of asthma, hepatitis and liver disease.

The patient experiences immediate changes in stiffness and pain with increased mobility. Because *Gua sha* mimics sweating, it can help to resolve fever. *Gua sha* cools the patient who feels too warm, warms the patient who feels too cold, while relaxing tension and reducing anxiety. Acupuncturists and practitioners of traditional East Asian medicine consider *Gua sha* for any illness or condition where there is pain or discomfort, for upper respiratory and digestive problems, and any condition where touch palpation indicates there is *sha*. *Gua sha* is often done in combination with acupuncture for problems that acupuncture alone cannot address.

After treatment the patient is advised to keep the area protected from wind, cold and direct sun until the *sha* fades. They are also encouraged to drink plenty of water and eat moderately.

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#### Complementary Therapies in Medicine (2014) 22, 446-448



## Addendum: Safety Standards for Gua sha (press-stroking) and Ba guan (cupping)



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#### **KEYWORDS**

Gua sha: Guasha; Cao gio; Coining; Spooning; Scraping; Baguan; Ba guan; Cupping; Traditional East Asian medicine; Chinese medicine; Integrative medicine; Safe practice; High level disinfection

**Summary** Our previous article *Safety Standards for Gua sha (press-stroking) and Baguan (cupping)* discussed the risk of transfer of blood-borne pathogens with Gua sha and Ba guan, identified Gua sha and Ba guan 'instrument criticality' as semi-critical and offered recommendations for safe practice based on hospital disinfection standards. Based on the article's feedback, we feel the need to clarify that Gua sha and Ba guan instruments, if intended for reuse, must undergo high level disinfection (HLD) or, in the case of 'wet-cupping', sterilization. We update our recommendations to be amenable to both private practice and education settings. © 2014 Elsevier Ltd. All rights reserved.

#### **Background and discussion**

In Safety Standards for Gua sha (press-stroking) and Ba guan (cupping), published in the October issue of Complementary Therapies in Medicine, Nielsen et al.<sup>1</sup> discuss the risks of transfer of blood borne pathogens with Gua sha and Ba guan, identifying tools used for these techniques, per the Centers for Disease Control (CDC) standard, as semi-critical

http://dx.doi.org/10.1016/j.ctim.2014.03.012 0965-2299/© 2014 Elsevier Ltd. All rights reserved. instruments. We offered recommendations for safe practice based on Centers for Disease Control and Prevention (CDC) and the Occupational Safety & Health Administration (OSHA) standards.

In the past Gua sha and Ba guan instruments have been mistaken as non-critical instruments, not requiring high level disinfection (HLD) because they appear to contact 'intact' skin. However, the contact with these techniques is not incidental but involves enough repeated or sustained pressure as to (intentionally) cause extravasation of blood and fluids that may also seep or be let from the skin even if not immediately visible. A case of herpes infection given to a patient by acupuncture and Ba guan cupping supports the premise that there is risk of blood borne pathogen transfer.<sup>2</sup>

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#### Safety Standards for press-stroking and cupping

Gua sha and Ba guan tools are, we maintain, categorically *critical* (for wet-cupping) and *semi-critical* (for Gua sha and dry cupping) *instruments* that require sterilization or high level disinfection (HLD) respectively before re-use.

We recommended a hospital surface disinfectant wipe: Super Sani-Cloth, Purple top (www.pdipdi.com). These chemical wipes are a hospital grade surface disinfectant but are not recommended for use as an end disinfectant for semi-critical instruments. They are appropriate for wiping surfaces in a clinical area for surface disinfection and may be used to pre-clean or decontaminate critical or semi-critical medical devices prior to sterilization or HLD.

HLD and/or sterilization require longer exposure to concentrated disinfection solutions. After reviewing standards and recommendations by the CDC,<sup>3</sup> OSHA,<sup>4</sup> Environmental Protection Agency (EPA)<sup>5</sup> and Federal Drug Administration (FDA)<sup>6</sup> we are updating our recommendations for HLD and sterilization.

# Set up: dedicated area for decontamination or sterilization

In addition to the procedures themselves, the CDC recommends there be a central processing area for disinfection and sterilization with distinct areas for the following steps<sup>7</sup>:

- 1. Receiving, cleaning and decontamination
- 2. Packaging
- 3. Sterilization, if needed
- 4. Storage

This division is designed to contain contaminated items to prevent contamination of the clean areas where packaging, sterilization, and storage of sterile items occurs allowing for quality control and safety. It should be separate from direct patient care areas.

Gua sha tools and Ba guan cups should be cleaned of blood, proteinaceous material and lubricants prior to HLD or sterilization<sup>1</sup> which can be accomplished with soap and water and then, if desired, wiping with Super Sani-Cloth. The cleaned instruments may then be disposed of, or if intended for re-use, rinsed of any soap or chemical debris and dried prior to immersion in the HLD/sterilization bath or autoclave sterilization.

# HLD/sterilization immersion for office/education setting

The FDA is the federal regulatory agency for safe and effective use of medical devices (http://www.cdc.gov/HAI/ prevent/sd\_medicalDevices.html) and is responsible for regulation of chemical sterilants. The FDA lists immersion solutions for HLD or sterilization that can be safely used in a typical acupuncture office or education setting.<sup>6</sup> We recommend the 7.5% hydrogen peroxide solution and procedure because it does not require special ventilation and over time degrades to oxygen and water. At this concentration, direct contact with the product may cause eye irritation, or bleaching of the skin with prolonged contact so gloving is recommended as is use of eye protection. Table 1Summary of recommended safety protocols forGua sha.

- 1. For Gua sha a single-use disposable press-stroking device can be disposed of. Any metal or stainless steel Gua sha instrument designed for re-use should be washed with soap and water and disinfected with a high level disinfectant (HLD) for the prescribed period to achieve HLD. We recommend an FDA approved 7.5% hydrogen peroxide solution with a 30 min immersion.<sup>a</sup>
- 2. Decant lubricant into a disposable secondary container or use pump device for lubricant.
- 3. Personal protective equipment (PPE): glove both hands for the procedure.
- 4. Consider procedure sequence with respect to PPE needs.
- <sup>a</sup> SPOROX<sup>®</sup> II Sterilizing & Disinfecting Solution.

SPOROX<sup>®</sup> II Sterilizing & Disinfecting Solution is an immersion solution that consists of 7.5% hydrogen peroxide (http://www.sultangroup.com/DSP/IPCatalog\_2012.pdf) and is FDA-cleared for HLD at 30 min immersion at 20 °C (68 °F), and for sterilization at 6h immersion at 20 °C (68 °F).<sup>6</sup> The longer immersion time is necessary for sterilization of instruments used for wet-cupping. SPOROX<sup>®</sup> II must be used undiluted and should be checked periodically with test vials (per product instructions) to ensure adequate concentration. Maximum reuse time for this solution is 21 days.<sup>8</sup>

#### Gua sha and Ba guan procedure sequencing

As discussed in our previous article,<sup>1</sup> sequencing of Gua sha and Ba guan with other procedures must be considered with respect to the need for personal protective equipment (PPE). These are included in Tables 1 and 2 that summarize the recommended safety protocols for *Gua sha* and *Ba guan*.

Table 2Summary of recommended safety protocols forBa guan.

- Cups used for <u>wet cupping</u> should be washed with soap and water and then sterilized before disposal or re-use. Sterilization requires immersion in 7.5% hydrogen peroxide solution<sup>a</sup> for the prescribed period of 6 h.
- 2. Cups used for <u>dry cupping</u> should be washed with soap and water and disinfected with a high level disinfection (HLD) solution, immersion in 7.5% hydrogen peroxide for the prescribed 30 min.
- 3. Personal protective equipment (PPE): wear gloves at all times.
- 4. When cups are obviously contaminated with blood or other potentially infectious material (OPIM), wear gloves and use a face shield (or mouth and eye protection) when releasing pressure, and when disposing of cup contents.
- 5. Consider procedure sequence with respect to PPE needs.
- <sup>a</sup> SPOROX<sup>®</sup> II Sterilizing & Disinfecting Solution.

#### Clarifications on reported practices

#### **Dishwasher cleaning**

We have been asked if washing instruments in a dishwasher is sufficient cleaning for reuse. The answer is emphatically no. Dishwashers do not provide HLD or sterilization. Moreover, a dishwasher used for this purpose may harbor blood borne pathogens that can then be distributed to other articles like dishes and silverware. And merely washing instruments with soap and water does not qualify as HLD or sterilization (needed after wet cupping). Bone or horn instruments sold for Gua sha use cannot withstand repeated washing or decontamination and therefore are not suitable for use in a clinical practice.

## Soaking in dilutions of household bleach or common hydrogen peroxide

While it has been common practice by some to disinfect instruments by soaking in various dilutions of household bleach (sodium hypochlorite), the only chlorine products cleared by the FDA for HLD or sterilization are generated onsite by saline electrolysis which is not feasible in a private practice or education setting. Common hydrogen peroxide sold as an antiseptic at drug stores is only 3% hydrogen peroxide, which is insufficient for HLD or sterilization and therefore not adequate for disinfection of semi-critical or critical medical instruments. Chemicals used for HLD and sterilization must be cleared for this purpose by the FDA,<sup>6</sup> such as the 7.5% immersion solution SPOROX<sup>®</sup> II.

### Summary

Based on the response to our safety article for Gua sha and Ba guan, and to reports of common practice engaged by practitioners, we clarify that Gua sha and Ba guan instruments, if intended for reuse, must undergo high level disinfection (HLD) or, in the case of 'wet-cupping', sterilization. For this purpose we recommend immersion in a 7.5% hydrogen peroxide solution for 30 min for HLD and 6 h for sterilization (both at  $20 \circ C/68 \circ F$ ). We also put forward CDC recommendations of dedicating an area for decontamination or sterilization where contaminated items are clearly separated from those that have been treated. Cleaning in a dishwasher or with common bleach or household hydrogen peroxide is emphatically insufficient. The recommendations and procedures made here are compliant with instrument criticality re-use standards and are amenable to both acupuncture private practice and education settings.

## **Conflict of interest**

The authors declare they have no conflict of interest.

#### Acknowledgment

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# Safety protocols for *Gua sha* (press-stroking) and *Baguan* (cupping)

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#### **KEYWORDS**

Gua sha; Cao gio; Coining; Scraping; Baguan; Cupping; Traditional East Asian medicine; Chinese medicine; Integrative medicine **Summary** *Gua sha* (press-stroking) and *Baguan* (cupping) are therapeutic procedures of traditional East Asian medicine (TEAM) that are also practiced in integrative clinical as well as domestic or familial settings. They may be defined as instrument assisted mechanical stimulation of the body surface that intentionally creates therapeutic petechiae and ecchymosis representing extravasation of blood in the subcutis. Blood and 'other potentially infectious material' (OPIM) can sometimes be drawn through the surface of the skin leading to potential contamination of instruments and to risk of bloodborne pathogen exposure. Neither the literature nor the current national standards of the acupuncture profession sufficiently address safety standards for *Gua sha* and *Baguan*. This paper presents the nature of the potential risks and applies current hospital safety standards as proposed protocols for *Gua sha* and *Baguan*. © 2012 Elsevier Ltd. All rights reserved.

#### Background

*Gua sha* and *Baguan* are integral aspects of traditional East Asian medicine (TEAM) and may be used alone or in conjunction with other modalities such as acupuncture. *Gua sha* is used as a form of self or familial care in the home<sup>1-4</sup> as well as in traditional East Asian clinical practice.<sup>5-9</sup> *Baguan* is also practiced in the clinical setting<sup>10,11</sup> as well as by folk healers and familial caregivers.<sup>12-14</sup>

Gua sha and Baguan are indicated for 'blood stasis', characterized by fixed or recurrent pain in acute or chronic disorders. Blood stasis in the surface tissue is also called sha.

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#### Gua sha

*Gua sha* consists of closely timed, repeated, unidirectional press-stroking with a smooth-edged instrument over a lubricated skin area until petechiae appear. The petechiae readily fade to ecchymosis that resolves completely within several days. The literal translation of 'sha' is 'sand, shark-skin, or red, raised, millet-size rash'.<sup>15</sup>

Gua sha is practiced throughout Asia under different names<sup>d</sup>; Western medical literature terms also include 'coining', 'scraping' and 'spooning'.<sup>16</sup> Two modern adaptations of Gua sha are marketed as 'Graston Technique' and 'Augmented Soft Tissue Mobilization' (ASTYM). The smoothedged tools used are commonly re-used on multiple patients

<sup>d</sup> 'cao gio' (Vietnam); 'kerok' (ka-drik or ka-drok) or 'kerokan' (Indonesia); 'kos khyal'<sup>1</sup> or 'ga-sal' (Cambodia); 'khoud lam' (cooed-lum) (Laos).<sup>16</sup>

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#### Safety protocols for Gua sha (press-stroking) and Baguan (cupping)

and therefore may risk transfer of blood-borne pathogens and/or other potentially infectious material (OPIM).

#### Baguan

The Chinese term *ba* means to pull out or pull up, while the term *guan* refers to a jar or pot. *Baguan* involves the application of suctioned round cups on the skin. The vacuum within each cup is produced by flame or by mechanical suction that causes the tissue to tumify and stretch into the cup. Cupping creates round or nummular petechiae and ecchymosis. In a variant known as wet cupping, a skin site is superficially poked and then cupped to intentionally draw blood into the cup.

Cups today are typically made of glass or plastic. With cupping, blood and OPIM may be intentionally or unintentionally drawn into cups. Unintentional expression of blood or fluid into cups may result from open blemishes or pimples, and may or may not relate to excessive suction force, skin fragility or hydration. Minute amounts of blood or fluid may express into the cups and not be visible to the naked eye and therefore *Baguan* cupping may risk transfer of blood-borne pathogens and/or OPIM. Cupping devices are commonly reused on multiple patients.

#### Indications for Gua sha and Baguan

*Gua sha* and *Baguan* are generally regarded in TEAM as effective for acute or chronic pain and for mild to severe conditions such as colds, flu, fever, heatstroke, respiratory problems such as asthma, bronchitis, and emphysema; functional internal organ problems; musculoskeletal problems and in any case of recurring or persistent fixed pain.<sup>17,18</sup>

*Gua sha* significantly increases surface microperfusion<sup>19</sup> and upregulates gene expression of heme oxygenase-1  $(HO-1)^{20}$  that may account for its anti-inflammatory effect in general, and its hepatoprotectant effect in chronic active Hepatitis B.<sup>21</sup> In randomized controlled trials *Gua sha* is effective for neck pain<sup>22</sup> and breast distension/mastitis.<sup>23</sup>

A 2010 systematic review of *Baguan* cupping concluded a majority of Chinese studies show potential benefit for pain conditions, herpes zoster and other diseases.<sup>17</sup> Two recent randomized controlled trials published in the West found wet cupping effective for chronic low back pain.<sup>24,25</sup>

Benefits from *Gua sha* and *Baguan*, such as fever reduction, pain relief and ability to breathe, can be felt immediately and are sustained to some degree over time where repeated treatment may be indicated to reach maximum sustained benefit and or until the problem is completely resolved.

#### Contraindications

Gua sha and baguan are contraindicated over any area where the dermis or flesh is injured or compromised as in sunburn, abrasion, rash or contusion except in cases of eczema where wet cupping may be indicated. In cases of injury, these techniques may be usefully applied to areas away from but related to the injured site. *Gua sha* is not contraindicated in patients with a stable INR (International Normalized Ratio) who take anticoagulation medication.<sup>26</sup> Particularly long or heavy cupping would be contraindicated in a patient using anticoagulant therapy.

### Risk of bloodborne pathogen exposure

A Medline and Chinese language database search revealed no reported cases of bloodborne pathogen transmission through *Gua sha*, Graston or ASTYM devices. However, disease transmission may be unrecognized because the possibility has not been considered. Indeed, even the US guidelines and safety standards of the acupuncture profession make no mention of *Gua sha* when presenting equipment recommendations, providing general guidelines, and pointing out the safety issues of various special techniques.<sup>27,28</sup>

It can be observed during Gua sha that some blood cells leave the skin surface and appear on areas of the patient's skin, the stroking tool, used lubricant, and the provider's hands if not gloved for the procedure. Contamination could be spread to the lubricant container and contents if one dips back into the container for additional lubricant. Environmental surfaces may also become contaminated. The re-use of stroking tools without decontamination could risk bloodborne pathogen exposure to other patients.

Moreover it is possible that levels of contamination below the threshold of unaided visual perception also occur. Even minute quantities of blood and OPIM are capable of transmitting pathogens such as hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).<sup>28</sup>

When *Baguan* draws blood or body fluids into a cup, there is unequivocal contamination of the cup and of the skin area that has been cupped. Contamination can spread to the clinician's hands if ungloved and face if unshielded, and splashing or aerosolizing of the cup's contents occurs. The re-use of contaminated cups without decontamination can expose other patients to bloodborne pathogens.

Complications as well as transmission of infection have been documented from cupping. Factitial panniculitis and herpes simplex virus (HSV) have been reported secondary to cupping demonstrating that transmission of bloodborne pathogens can occur.<sup>29,30</sup> U.S. guidelines and safety standards of the acupuncture profession contained in the current National Acupuncture Foundation's Clean Needle Technique (CNT) Manual are incomplete in their safety recommendations.<sup>28</sup> They omit the need for caution in removing cups containing blood or body fluids with respect to the potential for splash or aerosol formation upon the release of suction. However, this caution was provided in the previous edition of those standards as was recommendation for gloving when removing cups containing blood or body fluids and sterilization prior to re-use.<sup>27</sup>

While the re-use of various medical devices designed for a single use occurs in developing as well as developed countries,<sup>31</sup> the practice risks transmission of blood-borne pathogens. Protocols for safe use/re-use of Gua sha and Baguan instruments are proposed based on safety standards applied to medical devices of similar 'criticality' used in conventional medical settings.

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## Centers for Disease Control (CDC) guidelines

#### Medical instruments

US Centers for Disease Control, CDC defines medical instrument criticality and required decontamination procedures. Adoption of these standards for some integrative medicine modalities has been suggested<sup>32</sup> but utilization is uneven or absent within the integrative medicine community.

According to the CDC

- Critical items are objects that enter sterile tissue or the vascular system and must be sterile because any microbial contamination could transmit disease (CDC); they require sterilization prior to re-use.<sup>33</sup> Critical instruments may not be 'dedicated', that is, saved and labeled for use in a single patient without sterilization.
- Semi-critical items are those that make contact with nonsterile mucous membranes or nonintact skin and require sterilization if possible or high-level disinfection prior to re-use.<sup>31</sup> Semi-critical instruments may not be 'dedicated'.
- Non-critical instruments contact intact skin, and require intermediate level disinfection or low level disinfection prior to re-use. Some non-critical instruments are allowed to be dedicated for reuse in a single patient but not without required disinfection.

Cups used for wet cupping are categorically critical items: they clearly come into contact with blood and body fluids and therefore confer a high risk for infection transfer requiring disposal or cleaning with sterilization if intended for re-use.

Gua sha and Baguan instruments have been mistaken as non-critical instruments because they appear to contact 'intact' skin. However, the contact is not incidental but involves enough repeated or sustained pressure as to (intentionally) cause extravasation of blood and fluids that can seep or be let from the skin even if not immediately visible. They are categorically critical or semi-critical instruments that require sterilization or high level disinfection before re-use or safe disposal after one use.

# Occupational Safety and Health Administration (OSHA) guidelines

#### Personal protective equipment (PPE)

OSHA sets the Bloodborne Pathogens Standard with respect to the use of personal protective equipment (PPE). PPE refers to protective gear: examination gloves, face shields, masks and protective eyewear that form a barrier against hazardous exposures to the provider of medical care (http://www.osha.gov/dte/library/ppe\_assessment/ppe\_

assessment.html). PPE recommendations for Gua sha and Baguan have to be responsive to the risk of exposure to blood and fluid and comply with OSHA recommendations for safe practice.

#### Recommended safety protocols for Gua sha

#### Gua sha instruments

For *Gua sha*, the first recommendation is to exclusively use single-use *disposable* press-stroking devices. Metal jar lids, manufactured with a smooth rolled edge, function admirably and economically in this capacity. Since press-stroking tools are potentially contaminated by blood and/or OPIM they are classified as critical instruments and subjected to sterilization or high level disinfection if they are to be re-used. It is simpler and far more practical to dispose of them properly after single use. Note that Gua sha instruments must be washed and decontaminated even if intending to be disposed of after use.

It would be acceptable to re-use press-stroking devices made of metal such as stainless steel provided that they are cleaned, i.e. washed with soap and water immediately after use, taking care to remove the oils from the lubricant, and then sterilized or disinfected with a high level, registered hospital-grade disinfectant prior to re-use. Professional Disposables International (http://www.pdipdi.com) makes alcohol based germicidal disposable wipes (Super Sani-Cloth, purple top) that are bactericidal, tuberculocidal, and virudical tested to be effective against 26 microorganisms including TB, Influenza A (H1N1) and MRSA. Wiping the outside and inside of the instrument is required, and drying for at least 2 min. If patient exposure to the presence of dried chemical disinfectant is a concern, then flushing the instrument with clean water after disinfection and air drying is recommended.

Press-stroking devices that are made of materials such as horn or bone are not suitable for heat or chemical sterilization and are therefore no longer appropriate for clinical use.

#### Lubricants

Decant an amount of lubricant for *Gua sha* into treatmentsized portions prior to starting the procedure. Small paper cups serve well as secondary containers. Dispose of leftover lubricant and paper cup without returning any lubricant to the primary container. This prevents contamination of the primary lubricant container and its contents.

PPE standards recommend gloving both hands prior to performing *Gua sha* and while wiping off excess lubricant at the end of the procedure. Then one may remove gloves and wash hands.

Note that latex examination gloves carry a risk of severe allergic reaction and may tear when in contact with petroleum-based lubricants. It is preferable to use nitrile or vinyl gloves, which must be disposed after a single use.

#### Gua sha procedure sequencing

Finally a less obvious but relevant recommendation is to consider the sequencing of *Gua sha* with other procedures, with respect to the need for PPE. For acupuncture after Gua sha both hands should be gloved for palpation, needle insertion, needle manipulation and needle removal. For acupuncture

#### Safety protocols for Gua sha (press-stroking) and Baguan (cupping)

Table 1Summary of recommended safety protocols forGua sha.

1. For Gua sha a single-use disposable press-stroking device should be disposed of. Any metal or stainless steel Gua sha instrument designed for re-use should be cleaned, washed (immediately after use) and disinfected with a high level, registered hospital-grade disinfectant.

2. Decant lubricant into a disposable secondary container.

3. Personal protective equipment (PPE): glove both hands for the procedure.

4. Consider procedure sequence with respect to PPE needs.

done prior to *Gua sha*, one could palpate and needle without gloves; it is a good but not mandatory precaution to glove the hand that holds the cotton ball on needle removal. Then glove both hands for *Gua sha*. Table 1 summarizes the recommended protocols for *Gua sha*.

#### Recommended safety protocols for Baguan

#### **Baguan instruments**

*Baguan* cups used for wet cupping are by definition critical instruments and subject to sterilization if they are to be re-used. Cups that have become contaminated with blood or OPIM may not be re-used without cleaning and sterilization. It is questionable however, which, if any, of the various makes of plastic cups will survive repeated autoclaving. It may be simpler and far more practical to dispose of cups that have become contaminated with blood or OPIM from wet cupping. Disposable cups (*buhuankeop*) are available from Seongho Trade Korea (http://www.9988.tv)<sup>25</sup> and cup inserts are available from Lhasa OMS (http://www.lhasaoms.com). Note that cups must be washed and decontaminated even if intending to be disposed of after use.

Cups used for dry cupping are *critical or semi-critical instruments* that require sterilization or high level disinfection before re-use or safe disposal after one use. Even if intended as dedicated instruments they must be properly decontaminated per their criticality exposure before re-use on a single patient or disposal.

High level disinfection of dry cups may be accomplished in the same fashion as detailed above for Gua sha instruments. It would be acceptable to use a plastic cup liner, and to dispose of it after use in one treatment. Cup liners are currently available only in a 2 in. diameter. The liner has a hole at its apex, which is necessary for the passage of suction pressure. Thus it cannot be relied upon to prevent blood or OPIM contamination of the cup so high level disinfection of the cups still applies.

Recommendations for personal protective equipment (PPE) with *Baguan* are first to glove both hands to handle cups whether or not they are visibly contaminated with blood or OPIM. Also use a face shield or mouth and eye protection when releasing the pressure of cups contaminated with blood or OPIM due to the risk of potential splash and or aerosolization of blood and fluids by air turbulence. Continue to use this PPE while disposing of the liquid down a Table 2Summary of recommended safety protocols forBaguan.

1. Cups used for wet cupping should be cleaned, washed (immediately after use) and sterilized before re-use or before being disposed of.

2. Cups used for dry cupping should be cleaned, washed (immediately after use) and disinfected with a high level, registered hospital-grade disinfectant before reuse or being disposed of.

3. Personal protective equipment (PPE): wear gloves at all times.

4. When cups are obviously contaminated with blood or OPIM, wear gloves and use a face shield (or mouth and eye protection) when releasing pressure, and when disposing of cup contents.

5. Any article that is soaked or caked with blood must be disposed of in a 'hazardous waste' container.

6. Consider procedure sequence with respect to PPE needs.

sink drain. Cups should be washed and either sterilized or decontaminated immediately after use to avoid caking or drying of blood. Any blood or fluid soaked gauze or paper towel must be disposed of in a 'hazardous waste' bag or container. When rinsing the cup and sink, take care to avoid splashing.

#### Baguan procedure sequencing

The fourth recommendation is to consider the sequencing of *Baguan* with other procedures, with respect to the need for PPE. If one does cupping that draws out blood or OPIM, and next intends to insert filiform acupuncture needles in the same area, then both hands should be gloved for acupuncture point palpation, needle insertion, needle manipulation and needle removal. This precaution is due to potential contamination on the cupped skin area.

If needling is done prior to *Baguan*, one could palpate and needle without gloves, as the skin would not have been previously contaminated. It is a good but not mandatory precaution to glove the hand that holds the cotton ball on needle removal. Then glove both hands for *Baguan*, as cupping over an area that has just been needled is likely to draw blood into the cup. Table 2 summarizes the recommended protocols for *Baguan*.

#### Summary

*Gua sha* and *Baguan* are essential modalities of TEAM and are also used in the West as integrative modalities. CDC and OSHA standards apply to integrative modalities as well as those of conventional medicine. Due to the risk of exposure to blood and OPIM the instruments used for *Gua sha* and *Baguan* require either safe disposal after one use or decontamination and sterilization or disinfection with a registered hospital-grade disinfectant agent before re-use. Whether in a private or hospital setting, required safety standards apply and should be adopted and enforced within the acupuncture and integrative medicine communities.

## Conflict of interest

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The authors declare that they have no conflict of interest.

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INTEGRATIVE MEDICINE

# *Gua sha* research and the language of integrative medicine

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#### **KEYWORDS**

Gua sha; Cao gio; Coining; Traditional East Asian medicine; Acupuncture; Integrative medicine; Microcirculation; Pain relief

**Summary** This article is based on research findings published by Nielsen et al. [2007a. The effect of 'Gua sha' treatment on the microcirculation of surface tissue: a pilot study in healthy subjects. EXPLORE: The Journal of Science and Healing 3, 456–466]. The abstract was accepted for poster session at the conference on fascia (www.fascia2007.com) and appears in the conference text Fascia Research [Nielsen, A., Knoblauch, N., Dobos, G., Michalsen, A., Kaptchuk, T., 2007b. The effect of 'Gua sha' treatment on the microcirculation of surface tissue: a pilot study in healthy subjects. In: Findley, T.W., Schleip, R. (Eds.), Fascia Research: Basic Science and Implications for Conventional and Complementary Health Care. Elsevier, Munich, Germany, pp. 249–250]. Our Gua sha perfusion study, the abstract of which is reprinted in Box 1, was the first investigation into the physiology of Gua sha, a technique of traditional East Asian medicine used to treat conditions that have features of blood stasis, pain, and/or inflammation. Issues raised by our study are discussed here such as the significance of the terms used in Western medical literature to describe traditional indigenous therapies like Gua sha and the implication of our findings not only for future research but toward a shift in how the integrative medical community signifies its work. © 2008 Elsevier Ltd. All rights reserved.

What is Gua sha?

*Gua sha* is a traditional healing technique widely used in Asia, in Asian immigrant communities, and by acupuncturists and practitioners of traditional East Asian medicine worldwide. *Gua sha* is and has been informed by the experience of its use. It is generally regarded as effective for acute or chronic

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Box 1 Original Research Abstract (reprinted with permission)

The effect of *Gua sha* treatment on the microcirculation of surface tissue: a pilot study in healthy subjects. (A. Nielsen, N.M. Knoblauch, G. Dobos, A. Michalsen, T.J. Kaptchuk, 2007a).

**Context:** *Gua sha*, therapeutic surface frictioning that intentionally raises transitory petechiae and ecchymosis, is a traditional East Asian healing technique also known as *cao gio*, coining, scraping, and spooning. There are case reports in Western literature but no studies on the physiological effects of *Gua sha*.

**Objective:** To study the microcirculatory effects of *Gua sha* on the skin and subcutis in humans to elucidate physiological mechanisms responsible for the clinically observed pain-relieving effect of this treatment.

**Design:** Laser Doppler imaging (LDI) was used to make sequential measurements of the microcirculation of surface tissue before and after *Gua sha* treatment in 11 healthy subjects. The effect of *Gua sha* treatment on the microcirculation of surface tissue was expressed as changes from baseline in arbitrary perfusion units (PU).

**Setting:** The study was conducted at the Department of Nephrology, Unit of Circulation Research, University Hospital of Essen, Germany.

Subjects: Subjects were volunteers from the nursing and physician staff of the Kliniken Essen.

Intervention: A single Gua sha treatment was applied to an area of each subject's back.

**Outcome measures:** Change in microcirculation was measured in PUs. Change in myalgia was subjectively reported and confirmed by manual palpation.

**Results:** Gua sha caused a fourfold increase in microcirculation PUs at the treated area for the first 7.5 min following treatment and a significant increase in surface microcirculation during the entire 25 min of the study period following treatment (P<.001). Females showed significantly higher rates of response than males (P = .003). Each subject experienced immediate decrease in myalgia in both the site treated, in the related distal control site, and in some cases, other distal sites. Pain relief persisted to some extent up to the follow-up visit. There were no adverse reactions.

**Conclusion:** *Gua sha* increases microcirculation local to a treated area, and that increase in circulation may play a role in local and distal decrease in myalgia. Decrease in myalgia at sites distal to a treated area is not due to distal increase in microcirculation. There is an unidentified pain-relieving biomechanism associated with *Gua sha*.

**Keywords:** *Gua sha, cao gio,* coining, scraping, spooning, acupuncture, traditional East Asian medicine, indigenous medicine, domestic sector healthcare, surface microcirculation, pain relief (Explore 2007;3:456–466)



Time (Minutes)

Following Gua sha treatment, scans were taken every 2.5 min for 25 min, for a total of 10 scans. Gua sha caused a significant increase in surface microcirculation (P<.001) during the entire 25 min relative to baseline after treatment, with a fourfold increase in PUs specific to the treated area for the first 7.5 min following treatment (95% confidence limits shown).

а

#### Gua sha and the language of integrative medicine

pain and for mild to severe conditions such as colds, flu, fever, heatstroke, and respiratory problems such as asthma, bronchitis, and emphysema; functional internal organ problems as well as musculoskeletal problems (from fibromyalgia to severe strain, spasm or injury), and is indicated in any cases of recurring fixed pain. It is used as a form of self or familial care in the home (Craig, 2002; Fadiman, 1997; Hautman, 1987; Van Nguyen and Pivar, 2004) as well as in clinical practice (Nielsen, 1995; Zhang and Hao, 2000). For pain and inflammation associated with blood stasis, *Gua sha* is superior to acupuncture treatment.

Gua means to scrape or scratch in Chinese (So, 1987). Although scraping implies abrasion or injury to the surface, with *Gua sha* the skin remains intact; there is no abrasion. *Gua sha* consists of repeated, unidirectional, pressured stroking with a smooth edge over a lubricated area until sha blemishes appear (see Figures 1 and 2). For detailed description of *Gua sha* see Box 2 (Figure 3).

While Sha is literally translated as sand, sharkskin, or red, raised, millet-size rash (Ou Ming, 1988), it is important to understand that sha is a polysemous term. It describes the presence of blood stasis in an asymptomatic dormant form. Sha also describes the petechiae that are raised from *Gua sha* (see Figures 1, 2c and 4). Healthy subjects may have sha in an asymptomatic, pre-symptomatic or mildly symptomatic state that is potentially pathogenic. Or persons who are ill may have sha, the effects of which have progressed to a level of manifest pathogenicity.

Sha is most closely described as petechiae though much of the time the extravasated blood appears as red macula (Figures 1, 2c and 4). The blemishes begin to fade to ecchymosis immediately blending into an ecchymotic patch. Figure 5 shows 2-day old sha ecchymosis.



a smooth curved edge instrument over a lubricated area. Photo by Arya Nielsen.

C Figure 2 One indication of sha stasis is blanching that is slow to fade from pressing palpation. Pressing palpation (a) resulting in blanching (b) that is slow to fade signifies

(a) resulting in blanching (b) that is slow to fade signifies sha stasis, an indication for *Gua sha*. The same patient after *Gua sha* (c). Photo by Arya Nielsen.

b

Sha is also translated as cholera (Mathews, 1931; Weiger, 1965) wherein sha blemishes resemble cholera's end-stage rash. *Gua sha* in the East, like frictioning in early Western medicine (Jackson, 1806), was used in the treatment of cholera and cholera-like disorders (So, 1987).

In Vietnamese *Gua sha* is called *cao gio* (pronounced 'cow yo', meaning to 'scratch out the wind' (Mudd and Findlay, 2004; Craig, 2002); in Indonesian kerik (ka-drik or ka-drok) (Zuijlmans and Winterberg, 1996) or kerokan (Wilson, 1994); in Khmer Cambodian kos khyal (Kemp, 1985; Frye and D'Avanzo, 1994) or ga-sal (Nielsen, 2005); and in Laotian khoud lam (cooed-lum) (Nielsen, 2003). Common translations include coining, scraping, and spooning.

# Literature review: terms and complications

Published peer reviewed articles constitute professional discourse; inclusion and exclusion of information term and frame a subject for content and reference. Using a narrow scientific gaze, articles in the Western medical literature (1975–2007) identify *Gua sha, cao gio,* coining as a baffling, superfluous, and even dangerous attempt by Asians to care for their cultural rather than physical

#### Box 2 How is *Gua sha* performed?

*Gua sha* treatment at the back begins at the center-line with press stroking using the smooth rounded edge that is pressed into the flesh enough to contact the fascial layer (Figure 3), but not so hard that it causes pain or discomfort.

A stroke line is typically 4–6 in long.

Stroking is repeated in one direction until the sha is raised on that stroke line, typically 8–12 strokes. Some articles incorrectly describe application of *cao gio* involving rubbing back and forth with a coin (Lederman and Keystone, 2002; Walterspiel et al., 1987). This represents a misapplication of technique that could result in abrasion and not the therapeutic petechiae sought.

Sha petechiae fill the stroke line area as stroking proceeds. Stroking stops when all the sha is expressed as petechiae or macula at the stroke line, before producing ecchymosis, which will occur naturally as petechiae begin to fade and blend.

*Gua sha* stroking is then continued at the next stroke line directly adjacent to the one before. This goes on until the area to be treated is covered, taking approximately 5–7 min in our study.



**Figure 3** A smooth-edged instrument is press-stroked right to left in this photo with the heel of the provider's hand pressing the tool into fascial layer.



**Figure 4** Sha appears as a 'hickey' i.e. petechiae and ecchymosis associated with extravasation of blood from surface capillaries.



**Figure 5** Two days after treatment: Fading ecchymosis seen in the same patient as in Figure 4. Sha typically fades completely in 3 or 4 days.

health (Nielsen, 2007). Terms such as 'dermabrasion', 'pseudo-battery', 'child abuse', and 'factitial dermatitis' (Silfen and Wyre, 1981), among others, have been misapplied to this therapy, and will be taken up in more detail below.

*Complications* have also been reported in the Western literature for *cao gio* coining such as minor burns, renal contusion and hematuria, a brain bleed, camphor intoxication and toxicity, and misdiagnosis as hematoma, factitial dermatitis, strangulation, torture, and child abuse. A careful look at each case report of complication reveals startling errors and misconceptions that have gone unchallenged until now.

A case of minor burns reportedly caused by *Gua* sha was in fact related to fire cupping (Amshel and Caruso, 2000). And yet burns continue to be erroneously cited as a risk of *Gua* sha (D'Allessandro and D'Allessandro, 2005; Rampini et al., 2002; Sullivan and Trahan, 2007). Renal contusion and micro-hematuria was reported in an infant treated with *cao* gio without ruling out the hematuria as a likely side effect of the febrile illness for which the child was being treated (Longmire and Broom, 1987).

The most egregious misreport concerns an unconscious patient who was brought to an emergency department where doctors interpreted her brain bleed to have been caused by 'painful' *cao gio*, though it is not clear how she was able to communicate that the *cao gio* was so painful given she was unconscious (Ponder and Lehman, 1994). Rather, the physicians who treated her were so alarmed by the sha ecchymosis that they listed *cao gio* as causative and not coincidental to her existing brain bleed (Nielsen, 2007).

Reports of camphor intoxication or toxicity related to *Gua sha* stemmed from use of camphor

liniments (with or without *Gua sha* treatment) whose concentration of camphor exceeded those now allowed by law in the West (Aliye et al., 2000; Rampini et al., 2002; Seigel and Wason, 1986).

The most significant and consistent complication related to *Gua sha* is its misdiagnosis by providers who are naïve to its operation. Most of the medical terminology used to describe this healing technique is inaccurate, misleading, biased, and alarming. Table 1 lists some of the terms used to describe *Gua sha* with definition and comment on their application along with citations.

Suffice it to say that *Gua sha* is not a form of battery, trauma, injury, abuse, or even pseudo-battery or pseudo-abuse. And *Gua sha* is not suitably described by terms such as dermabrasion, bruising, burns, factitial dermatitis, pseudo-factitial dermatitis, pseudo-bleeding, nummular erythema, purpura, cutaneous stigmata, or hematoma. Yet these terms have been accepted by peer review, published and continue to be cited, thus affirming *Gua sha* in a negative register of abuse/ not abuse, battery/pseudo-battery, dermatological disease/not disease.

The negative register that has contextualized *Gua sha* with alarm can itself be corrected by simply calling sha by its true name: therapeutic extravasation of blood resulting in transient petechiae, macula, and ecchymosis. Or simply: sha represents 'transient therapeutic petechiae'.

A 2005 search of the Chinese medical literature database from 1984 to 2004 finds no reports of mistaken abuse or complications. Rather, there are 120 articles on outcome studies using *Gua sha* for painful musculoskeletal conditions as well as acute infectious illness, respiratory conditions, autoimmune, and inflammatory disorders (Nielsen, 2007). A full list and analyses of the studies from the Chinese medicine database can be found in the latter reference.

# Significance of laser Doppler research on *Gua sha*

There are two secondary findings worth noting from our study. First, we found that nascent surface perfusion was greater at the upper back in each subject. This has not been previously reported and qualifies for further study. Second, we found a larger perfusion change in women than in men. This may be due to our small sample of 11 subjects but is worthy of further study.

As indicated in the abstract in Box 1, our study found 400% increase in surface microcirculation as

a direct result of *Gua sha* for a full 7.5 min after treatment, as well as a statistically significant increase for the full 25 min studied. The findings are significant in that they demonstrate what is visible to the eye with *Gua sha*, that the red petechiae/macula/ecchymosis represents a substantial physiologic change. It is important to note that a 400% change is not reported in any other study using surface laser Doppler scanning, that is, there is no other condition or technique studied that result in a 400% change in microcirculation making *Gua sha* a unique phenomenon studied to date.

# Perfusion comparisons: *Gua sha*, massage, and acupuncture

A comparison of other perfusion studies can help situate the significance of perfusion changes from *Gua sha*. Researchers have demonstrated increased skin blood flow from compressed air massage which immediately fell when treatment stopped (Mars et al., 2005). Laser Doppler scanning was used to demonstrate a small but significant increase in skin blood flow from 'de qi' acupuncture, both in the hand point needled (Li 4, Hoku) with short-lived spikes in skin blood flow up-meridian at elbow point LI 11 (Quchi) (Kuo et al., 2004). By contrast *Gua sha* maintained a change in perfusion for the full 25 min studied.

Sandberg et al. (2003) studied superficial and deep muscle blood flow changes from acupuncture needling, finding that acupuncture with a 'de qi' response increased superficial and deep muscle blood flow by 75% for the first 5 min after needling. In contrast, *Gua sha* increased superficial blood flow by 400% for the first 7.5 min, with significant increases maintained for the full 25 min period studied. *Gua sha* appears to sustain an increase in microcirculation greater and longer than massage or acupuncture.

That *Gua sha* is identified with a large increase in surface perfusion substantiates there is a measurable physiological impact of the technique. However, this represents a partial knowledge of *Gua sha*. It would be short-sighted to attribute the therapeutic effect of *Gua sha* to increase in microcirculation alone.

For example, each subject had a reduction in pain that persisted fully or to some extent at follow up. Immediate pain relief at the primary treatment site may be attributed to increased circulation, resultant warming, and venting of heat, i.e. thermoregulation that might alter inflammation **Table 1** Listed are some of the terms used to describe *Gua sha*, *cao gio* coining in Western medical literature (1975–2007), with definitions, comments on their misapplication and citations of the articles where the terms are used (Nielsen, 2007).

Terms	Definitions	Comments	Citations of articles using terms
Battery trauma, injury, abuse, torture, and strangulation	To injure; cause bodily harm.	<i>Gua sha</i> does not injure or harm a patient. Red ecchymosis is 'mistaken' for bruising.	Ashworth (1993), Bays (2001), David et al. (1986), Davis (2000), de Luna et al. (2003), Halder et al. (2002), Halder and Nootheti (2003), Heyman (2005), Hoffman (2005), Hulewicz (1994), Keller and Apthorp (1977), Levin and Levin (1982), Look and Look (1997), Mevorah et al. (2003), Morrone et al. (2003), Ngo-Metzer et al. (2003), Rampini et al. (2002), Shah and Fried (2006), Stauffer et al. (2003), Tuncez et al. (2005), Walsh et al. (2004), Westby (2007), Willgerodt and Killien (2004), Wong et al. (1999), Yoo and Tausk (2004).
Pseudo-battery, pseudo- abuse	False, fraudulent or 'pretend' battery or abuse.	Reinforces traditional medicine as 'pseudo' medicine. Does not clarify that harm is not inflicted.	Anh (1976), Du (1980), Gellis and Feingold (1976), Kaplan (1986), Primosch and Young (1980), Rosenblat and Hong (1989), Saulsbury and Hayden (1985), Yeatman et al. (1976).
Dermabrasion	A painful technique for removing scars or tattoos where the surface of the skin is removed by abrasion: sanding or wire- brushing. Skin is red, raw and takes several weeks to months to heal.	The skin remains in tact with <i>Gua sha</i> . There is no abrasion; the ecchymosis fade completely in 2–4 days.	Golden and Duster (1977), Kemp (1985), Dinulos and Graham (1999), Davis (2000).
Bruising	Trauma, injury or blow that causes bleeding from damage to capillaries and vessels. Takes weeks to months to heal and or completely disappear.	There is no injury with <i>Gua sha</i> . Seeping from capillaries is initial and transient with ecchymosis fading in days.	Campbell and Sartori (2003), Graham and Chitnarong (1997), Hefner et al. (1997), Hulewicz (1994), Kemp (1985), Mevorah et al. (2003), citing Hulewicz (1994), D'Allesandro and D' Allesandro (2005), Roberts (1988), Scales et al. (1999).
Burns	Injury to the skin caused by heat.	<i>Gua sha</i> does not involve heating the skin in any way but has been confused with fired cupping.	Amshel and Caruso (2000), D'Allesandro and D' Allesandro(2005), Rampini et al. (2002), Sullivan and Trahan (2007).
Dermatitis	Inflammation of the skin, typically referring to eczema.	Sha does not represent inflammation of the skin on the order of rash or eczema. Sha petechiae are transitory and fade in days.	Silfen and Wyre (1981).

## Gua sha and the language of integrative medicine

Table 1 (continued)				
Terms	Definitions	Comments	Citations of articles using terms	
Factitial dermatitis	A primary psychiatric symptom: skin lesions or skin disorders created by or perpetuated by manipulation of the skin surface (Habif, 2004).	Sha is not true dermatitis and is not factitial in that <i>Gua sha</i> is most often applied by someone other than oneself.	Silfen and Wyre (1981).	
Pseudo-factitial dermatitis	Skin condition that can lead the clinician to an erroneous diagnosis of factitial dermatitis. Author explains pseudo- factitial dermatitis does not exist.	Here sha is responsible for 'leading the clinician to an erroneous diagnosis.'	Lachapelle et al. (1994).	
Pseudo bleeding	'Fake bleeding'; a term intended to eliminate bleeding as cause or comorbidity.	Clarifies sha does not represent blood thinning, low platelets or vascular problem.	Overbosch et al. (1984).	
Nummular erythema	Coin shaped red lesions.	This term confuses <i>Gua</i> sha with cupping which results in nummular- shaped ecchymosis.	Campbell and Sartori (2003).	
Purpura	A condition characterized by hemorrhages in the skin and mucous membranes that result in the appearance of purplish spots or patches 2 mm to 1 cm. May be secondary to platelet or coagulation dysfunction or vascular defect.	Incorrect histological definition of sha.	Leung (1986), Leung and Chan (2001), Ponder and Lehman (1994), Primack and Person (1985).	
Cutaneous stigmata	Mark on the skin of infamy, disgrace or reproach indicative of a history of disease or abnormality.	Sha does appear on the skin and has been associated with disgrace, disease or reproach by the biased. Associates <i>Gua sha</i> with suffering.	Buchwald et al. (1992).	
Hematoma	Localized swelling filled with blood resulting from a break in a blood vessel.	Sha marks are not the size of hematomas.	Ponder and Lehman (1994), Zuijlmans and Winterberg (1996).	
Linear petechiae and ecchymosis	Small crimson, purple, red, or livid spots on the skin due to extravasation of blood. Ecchymoses indicates passage of blood into subcutaneous tissue marked by discoloration.	Most accurate medical terminology to describe sha though sha is not related to the morbidities typically associated with petechiae or ecchymosis.	Crutchfield and Bisig (1995), Dinulos and Graham (1999a), Lederman and Keystone (2002), Leung (1986), Leung and Chan (2001), Nielsen (1995), Roberts (1988).	

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and pain. But it is unclear how increase in microcirculation can account for pain relief that persisted for days since microcirculation returned to normal at follow up for each subject.

Moreover, laser scans were taken of a control area in each subject that had some level of myalgia before treatment. The control areas, distal from the areas treated with *Gua sha*, did not show an increase in surface microcirculation. Pain relief at subjects' distal areas that was immediate and also persisted at follow-up cannot be attributed to increase in microcirculation. There remains an as yet unidentified biomechanism(s) associated with pain relief observed from *Gua sha*, as well as biomechanisms associated with *Gua sha*'s ability to bronchodilate, reduce fever, and inflammation, etc.

Efficacy studies using *Gua sha* for neck pain, for example, are now being conducted at a hospital in Germany with very positive preliminary results. As *Gua sha* demonstrates efficacy for conditions will it continue to be categorized as 'folk' medicine, or as 'complementary alternative' medicine?

## The language of integrative medicine

Recently a patient was referred to me by her oncologist. She had seen an acupuncturist close to her home but said she preferred our facility. At check out she was surprised to learn that there was a fee for her session. Her physician told her that acupuncture was complementary medicine and she assumed that meant 'free'. Complimentary and complementary sound the same even if the meanings are quite different. The term 'complementary' diminishes the relevance of any medicine that it describes.

Language and terms constitute a discourse. Words used to signify a therapy can themselves authorize it or demean it. Paradigms of medicine not based in modern scientific linguistics remain 'ghettoized' as 'complementary or alternative', or delimited by their domestic use and oral communication, and dubbed 'folk' remedies as in the American Medical Association's (1997) (AMA) Folk Remedies among Ethnic Subgroups. But East Asian medicine, Ayurveda, early Galenic medicine, and the medicine of Islam are traditional indigenous systems based in scholarly traditions with scholarly archives (Bates, 1995). Praxis may precipitate to and elevate from the non-erudite just as aspects of modern medicine are adapted within local domestic and family contexts. But local domestic contexts do not define any system. Delimiting traditional medicines to their oral rather than scholarly transmission is a colonial operation generally and in the case of East Asian medicine represents a racist 'Orientalist' position (Said, 1979, 1985).

The hegemony of science continues to position praxis outside of scientific culture as 'complementary and alternative,' even when studies prove benefit over standards of practice (Nielsen, 2007). Consider, for example, a study that compared acupuncture to exercise for pelvic girdle pain in pregnancy (Elden et al., 2005). Acupuncture was superior to exercise but both worked. The study conclusion stated that acupuncture and exercise 'constitute efficient complements to standard treatment' for management of pelvic girdle pain during pregnancy. However, no effective standard of treatment had been demonstrated (Stuge et al., 2003). Here then, therapies proven effective continue to be categorized as complementary or secondary essentially promoting an artificial hierarchy that blurs rather than clarifies best practice options.

The persistent use of terms like 'complementary and alternative' medicine (CAM) to describe therapies that stem from a 2000 year tradition and/or have demonstrated efficacy can be seen to be politically or culturally motivated. The goal of integrative medicine should be best practice based on best possible evidence and should not promote or sustain an artificial hierarchy.

To that end *Gua sha* is here described as a technique belonging to traditional East Asian medicine. *Gua sha* produces therapeutic petechiae and ecchymosis that are transitory and associated with significant increase in surface microcirculation. The increase in perfusion is a partial knowledge of the biomechanism of *Gua sha*. More study is necessary to elucidate other biomechanisms associated with its therapeutic effect.

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