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

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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.

Overview

- Harms, complications, negligence/errors and adverse events/effects/reactions
- Ba guan reports
- Gua sha reports
- Under-reported risks
- Recommendations/Guidelines for Safety
  - Blood borne pathogens
  - Practice steps and review of Contraindications
- Handouts:
  - 2 pages PDF on Safety Recommendations

Sha petechiae and ecchymosis ➔ immediately following Gua sha

Nummular hyperpigmentation from Ba guan cupping ➔


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-year-old 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.

Cupping: bizarre ‘other’ or historical ‘self’

1694 1565 1694

Early Western medicine

- Cupping, cups or bahnkes (in Yiddish)
- Sha also translated as cholera
  - Gua sha treats cholera
  - Surface frictioning used to treat cholera in early Western medicine
- See History Module
  Gua sha Certification Course
Adverse effects

- Ba guan, cupping
- Potential
- Realized

Potential adverse effects

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

Delay in care

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


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 blood 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 cupping-attached region remained without any subjective discomfort. We suggest the importance of qualified health professionals when receiving cupping treatments.


1. No blood loss established with dry cupping
2. Hyperpigmentation does not imply anaemia
3. Patient had seen doctors for her pain related to lumbar stenosis, i.e. cupping in no way delayed conventional care.
4. 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


2. 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).

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


2012 Systematic review
No serious adverse effects reported in 135 clinical trials


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.


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

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-hickey-stroke_us_57c5f288e4b0e60d31dc03e7

Bullae
‘prolonged’ or ‘excessive’ cupping

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

Bullae from cupping
‘prolonged’ or ‘excessive’

Aftercare: Sterile dressings with antibiotic ointment applied

Completely resolved in 2 weeks


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


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

Knee: arthroscopic ‘trauma bullae’

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.


=BURNING NEGligence

Burns/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

Panniculitis

- Panniculitis = fatty layer inflammation
- Factitial (self-inflicted) panniculitis can be produced by mechanical, physical or chemical means: i.e. self-inoculation or mechanical trauma typical.
- Self limiting; fades like a bruise w/in 6 weeks
  - Need to distinguish cause to rule out disease or infection.
  - Avoid further cupping over area
  - If infected, needs surgery consult


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


Köebner phenomenon induced by cupping therapy


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.


• 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.


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.


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 sx
- 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
  - ≠ 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?

Lumbar abscess from ‘hijamah’

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


Neck abscess

- 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.
- 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.

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


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

Adverse effects

- Gua sha, press-stroking

Acute epiglottitis

Gua sha applied with excess force and at an area that is not indicated for treatment.

Complication due to misapplication of Gua sha

Primary complications related to Gua sha are misdiagnosis by physicians.

- Cao gio mistaken for burns
- Coining mistaken for torture
- Kos Khyl ’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’


Press-stroking and ecchymosis


Blunt force trauma, skin lesions from dermabrasion


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**Gua sha: a Traditional Technique for Modern Practice Table 2.1**

<table>
<thead>
<tr>
<th>Terms</th>
<th>Definition</th>
<th>Comments</th>
<th>Citations of articles using terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermabrasion</td>
<td>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.</td>
<td>The skin remains intact with Gua sha. There is no abrasion; the ecchymosis fades completely in 2-4 days.</td>
<td>Golden and Duster (1977), Kemp (1985 ), Dinulos and Graham (1999), Davis (2000), Tanner et al. 2016</td>
</tr>
</tbody>
</table>

Dermabrasion removes top layers of skin. It wounds and destroys the skin.

Gua sha is not dermabrasion!

http://www.plasticsurgicraft.com/Dermabrasion.html
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...

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 **may not 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)
Non critical?

- 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

Federal Drug Administration (FDA)

- Now responsible for the regulation of chemical sterilants
  - For the safe and effective use of medical devices
- FDA lists immersion solutions for
  - Sterilization
  - HLD
  - That are safe to use in a practice setting
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

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

Sterilization for instruments with apparent blood and fluids

www.pdipdi.com

• Bactericidal, tuberculocidal, and virucidal
• Tested effective against 26 microorganisms* including TB, Influenza A (H1N1), HIV, HBV, HCV, Herpes etc....and MRSA on pre-cleaned, environmental surfaces
• Contact time is 2 minutes
• PRECLEANING required

Procedure to disinfect or sterilize

Create a staging area for disinfection away from patients!

Wash instruments with soap and water
Immerse in 7.5% Hydrogen peroxide solution
30 minutes: high level disinfection
6 hours: complete sterilization
Sporox® II Sterilizing and Disinfecting Solution

Sterilizing and Disinfecting Solution
Powerful hydrogen peroxide-based sterilant and high-level disinfectant 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
- High-level disinfection in 30 minutes
- Solution can be re-used for up to 21 days


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

Gua sha handout

Place your contact information at the top
Contraindicated

• Gua sha and Ba guan should not hurt i.e.
  • Develop adept technique
    • Do not over treat
    • Do not apply too much pressure

Contraindications

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

• Is Gua sha contraindicated?
  • Pregnancy?
  • With anti coagulant therapy?
  • Hemophilia or Von Willebrand’s?
  • Elderly or weak patient?
  • Patients with severe illness?
  • Patients having chemo?
  • Women who are menstruating?

Clarification

Gua sha may be applied in

• Diabetes
• Patients with or being treated for cancer
• Elderly or weak patients
• Infants and children
  With considerations and cautions
Caution

• Gua sha is not contraindicated but used
  • conservatively,
  • only when necessary and
  • over limited areas.

• Observing sha
  • within the session
  • at the next session.

Caution

• Pregnancy
• Hemophilia
• Anti coagulant therapy
  • Warfarin, Coumadin etc.
• von Willebrand's

Anticoagulants

• Angiomax
• Argatroban
• Arixtra
• Atryn
• Coumadin
• Eliquis
• Enoxaparin
• Fondaparinux
• Fragmin
• Heparin
• Innohep
• Iprivask
• Jantoven
• Lovenox
• Pradaxa
• Refudan
• Trhobatelli
• Warfarin

Antiplatelets

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 sx/s chemo term

**Do not Gua sha over**

- Obvious sensitive structures
  - Eyes
  - Genitals
  - CV 22-23

At left: epiglottitis from misapplication of Gua sha

**Communication re treatment**

- Safe practice includes communication about the benefits and care of Gua sha or Baguan
- Always treat children in the presence of a responsible adult
- Always give a handout that explains Gua sha or Baguan with your contact information
- Recommend further reading if there is interest

**Safe practice**

- Only use these techniques if you are trained by a qualified instructor
- Follow the guidelines for safe practice as outlined in this presentation
- Gua sha Certification Course
- PDF online at [www.guasha.com](http://www.guasha.com)

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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](http://www.prodseminars.com/guasha)
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Acupuncture Therapy: Risks and Harms
Ethics: Professional Standards

Inpatient and Hospital-based Acupuncture Therapy

Arya Nielsen, PhD and Claudia Citkovitz, PhD

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