



# Sertifikat

PERHIMPUNAN DOKTER SPESIALIS SARAF INDONESIA  
CABANG KALIMANTAN TIMUR



## WORKSHOP DRY NEEDLING

Diberikan Kepada

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Sebagai  
**PEMBICARA**

RSUD Kanujoso Djatiwibowo, Balikpapan, Minggu 25 Maret 2018  
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## **CURICULUM VITAE**

**dr. I Putu Eka Widyadharma, M.Sc, Sp.S(K)**

### **Pendidikan :**

S1 : Universitas Udayana Denpasar Tahun 1997  
Profesi : Universitas Udayana Denpasar Tahun 1999  
S2 –Clinical Medicine : Universitas Gadjah Mada Yogyakarta Tahun 2009  
Spesialis Saraf : Universitas Gadjah Mada Yogyakarta Tahun 2009  
Konsultan Nyeri : Kolegium Neurologi Indonesia Tahun 2014  
Pendidikan Doktor : S3 Ilmu Kedokteran Universitas Udayana sejak 2015-sekarang

### **Pelatihan/Workshop :**

- Neuropathic pain Management, Manila, Phillipina, 2011
- Interventional Pain Management, Mumbai, India, 2012
- Diabetic Neuropathy Workshop, , Manila, Phillipina, 2012
- USG for Neurologist, Jakarta, 2012
- Neuropathic pain workshop, Milan, Italy 2012
- USG Guidance for Interventional Pain management, Bandung 2012
- Pain Management Camp, Singapore 2013
- Interventional Pain Management, Medan 2013
- USG Guidance In Pain management, Yogyakarta 2014
- Asia Facific Pain Summit, Denpasar 2016
- Neuropathic Pain, Yokohama, Jepang 2016
- Dry Needling Physician Certified by AAP Education, Australia, 2017

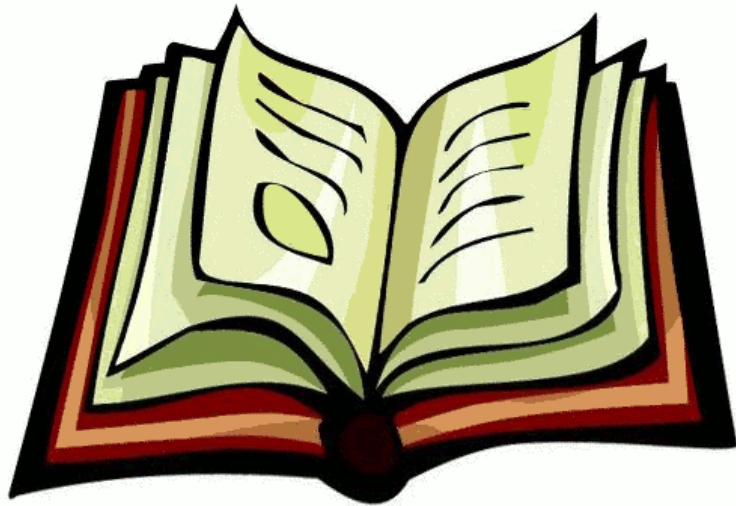
# BASIC PRINCIPLES OF DRY NEEDLING IN MYOFACIAL PAIN

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Balikpapan, 25 Maret 2017

# Dry Needling-Definition



## **Dry Needling**

**A skilled intervention that uses a thin filiform needle to penetrate the skin and stimulate underlying myofascial trigger points, muscular and connective tissues for the management of neuromusculoskeletal pain and movement impairments.**

*(American Physical Therapy Association  
Dry Needling Task Force, May, 2012)*

Is  
Dry Needling  
Acupuncture?



# Dry Needling versus Acupuncture

## Similarities

The Tool

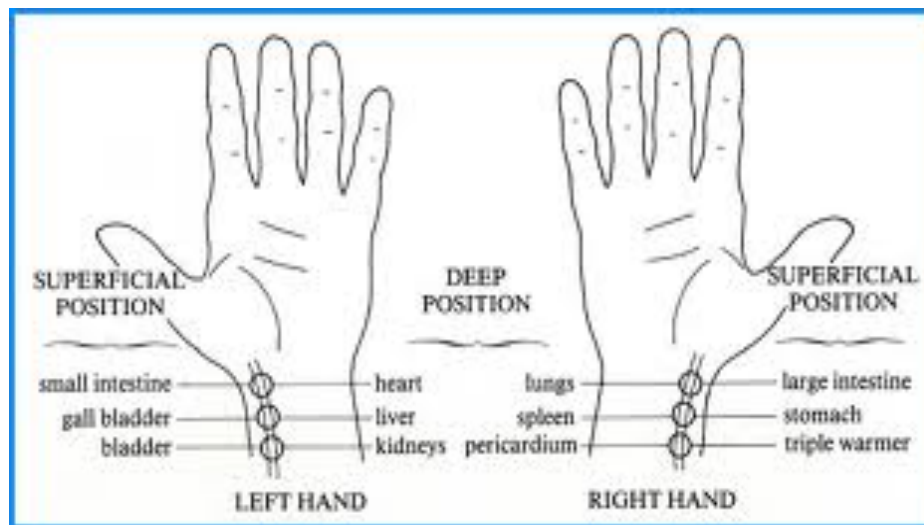
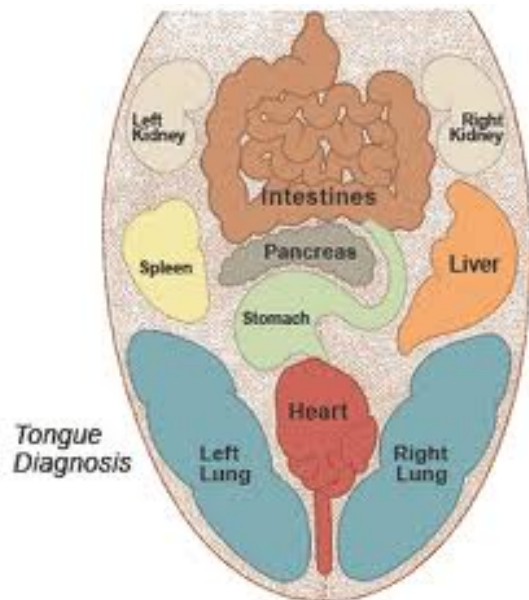


## Differences

Evaluation

Application

Overall Goal



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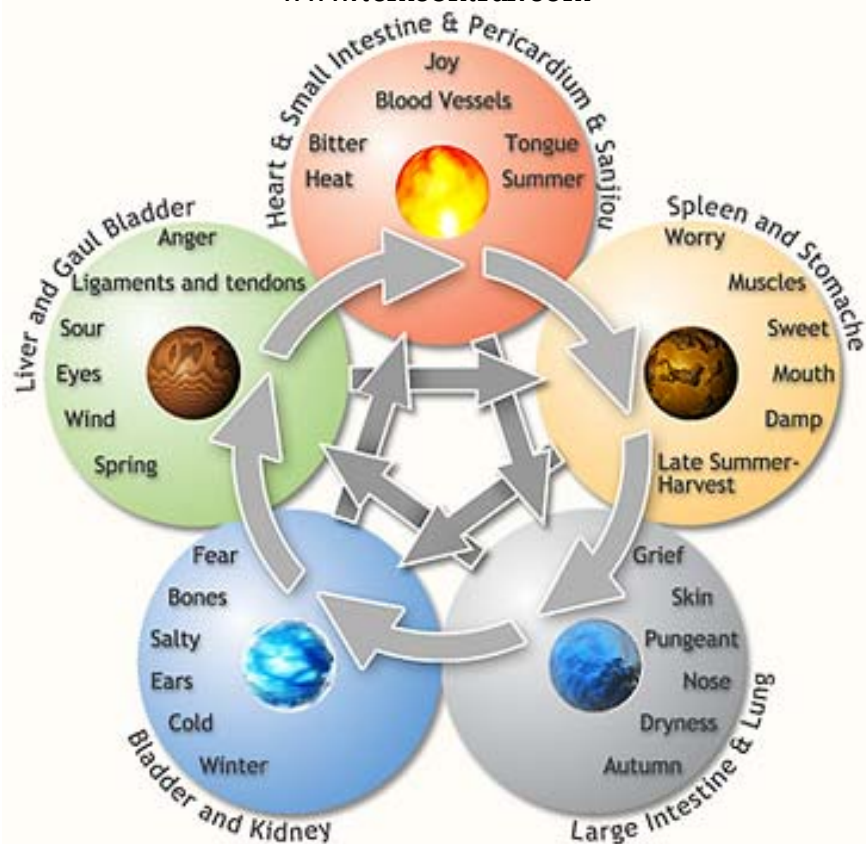
## Traditional Chinese Acupuncture

Evaluation utilizes examination of tongue and pulse





[www.tcmcentral.com](http://www.tcmcentral.com)



[www.yangacupunctureherbalinstitute.com](http://www.yangacupunctureherbalinstitute.com)



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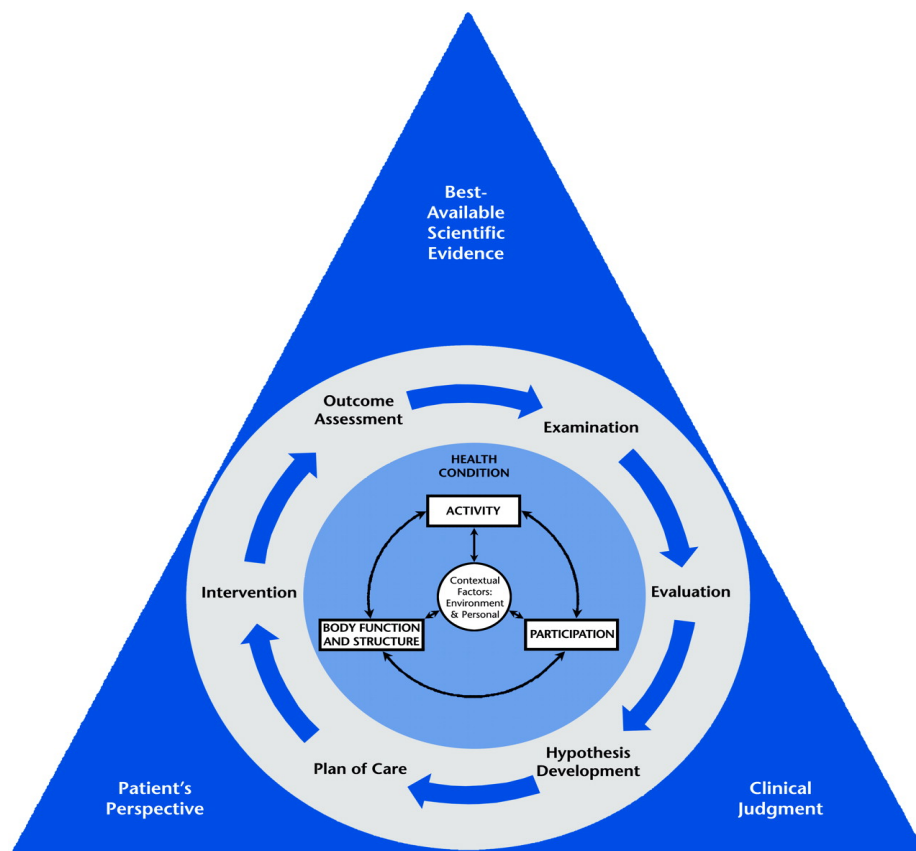
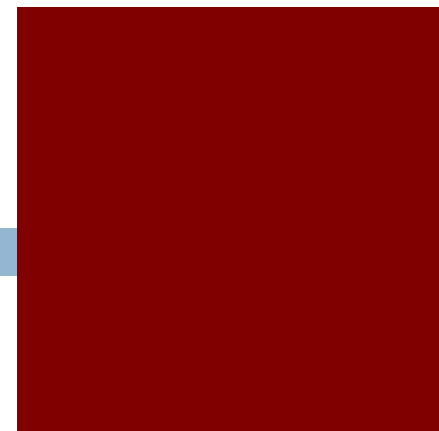
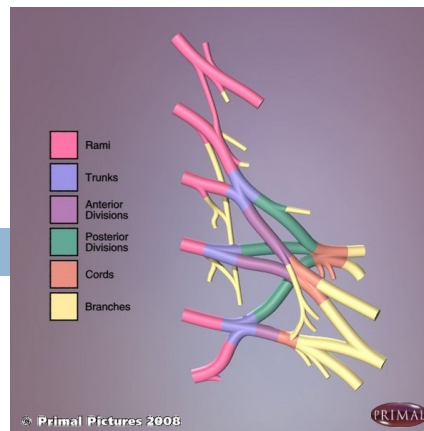
## Traditional Chinese Acupuncture

Uses needle to balance energy, life-force, or qi in the body



## Dry Needling

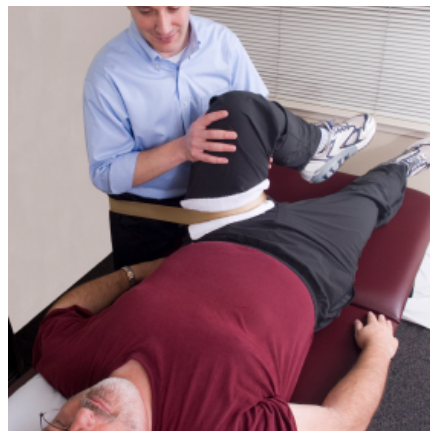
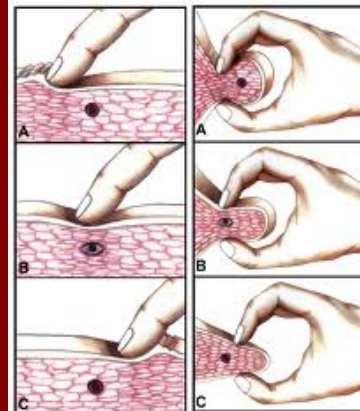
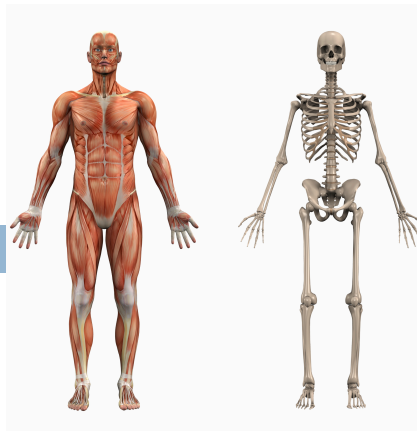
Needle insertion points based on assessment and knowledge of neuroanatomy





## Dry Needling

Evaluation includes subjective and objective examination of the neuromuscular system



# Response to needling

- Dry needling, when indicated, produces immediate effect.
- Different people respond to needling differently and are thus classified as strong, average and weak responders.
- A strong responder will need minimal needle stimulation to achieve needling effect
- Overstimulation can worsen patient's pain.

# Therapeutic effects

- Pain reduction by counter irritation & release of neurotransmitters
- Pain reduction by resolving trigger point
- Promotion of healing by fibroblastic activation
- Promotion of healing by increasing local blood supply

# Hypothetical Mechanism of DN

- Mechanical disruption of motor endplate and trigger point relaxes muscle fibers and relieves irritation
- Normalization of muscle chemical balance
- Stretching fascia aligns collagen and activates fibroblast
- Activation of A $\beta$  mechanoreceptors for pain gate control blocking pain transmission by dorsal horn relay neurons

# Hypothetical Mechanism of DN

- Activation of endogenous opioid system of the CNS
- Activation of serotonin and noradrenalin neurons in the brainstem and spinal cord descending pathway
- Suppression of substance P secretion by enkephalinergic inhibitory neurons in the dorsal horn.


# Suggested Indications

- Trigger points: Releases trigger points
- Pain of muscular origin, e.g. muscular component of acute spinal pain: for analgesia, control of muscle spasm.
- Musculoskeletal pains e.g. osteoarthritis: works like pain killers, provides temporary relief
- Referred pains: works like pain killers, provides temporary relief
- Pathologies of soft tissue origins: e.g. tennis elbow, plantar fascitis

# Absolute Contraindications:

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1. In a patient with needle phobia
2. Unwilling patient - patient beliefs, fear etc
3. Unable to give consent - age-related, communication, cognitive Impairment
4. History of untoward reaction to needling (or injection) in the past
5. Medical emergency

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6. Into a muscle or area in patients on anticoagulant therapy or with thrombocytopenia, where haemostasis by palpation cannot be carried out appropriately e.g. psoas, tibialis posterior
  7. Into an area or limb with lymphoedema as patients with lymphoedema maybe more susceptible to infection. In addition it is not advisable to needle a limb after surgical lymphectomy.

# Relative contraindication

1. **Abnormal Bleeding Tendency:** anticoagulant therapy, thrombocytopenia
2. **Compromised Immune System:**
  1. Immunocompromised patients from disease (e.g. Blood borne disease, Cancer, HIV, AIDS, Hepatitis, bacterial endocarditis, incompetent heart valve or valve replacements etc.)
  2. Immunocompromised from immunosuppression therapy or on cancer therapy
  3. Debilitated patients or those with chronic illness etc
  4. Acute immune disorders (E.G. acute states of rheumatoid arthritis, current infection, local or systemic etc.)



**3. Vascular Disease**

**4. Diabetes**

**5. Pregnancy:** one in four to five pregnancies may naturally terminate in the first trimester.

**6. Frail Patients**

**7. Epilepsy**

**8. Children**

# How is it performed?

- With careful precision the structure to be needled is chosen.
- Then sterilized disposable needles are pierced through the skin into the target tissue.
- Choice of needle is dependent upon depth of target tissue.
- A clean field technique is used. As there is minimal or no bleeding, sterile field is not needed.
- The needles are kept inserted for a span of 30 seconds to few minutes and then withdrawn and disposed properly.

# Dangers of Dry Needling

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## Pneumothorax

- Dry needling may puncture pleura and cause pneumothorax.
- The risk of a pneumothorax is very small if proper needling techniques are employed

# Blood Vessels

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- with DN there is a potential of injury to blood vessels.
- Palpating for a pulse to locate an artery prior to DN minimizes the risk.

# Nerve

- with DN there is potential for injury to nerves.
- Special consideration needs to be given in relation to the spine and in the posterior sub occipital area
- the brain stem is accessible through the foramen magnum.

# Organs

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- Anatomical knowledge of internal organs is important as with DN there is potential for injury to internal organs such as the kidney or penetration into the peritoneum cavity.

# Minor adverse effects



1. needling pain
2. aggravation of symptoms
3. faintness, drowsiness

# Needles

- Needles can be as short as 12.5 mm or as long as 100 mm. the choice of needle is based on the target tissue and specific techniques used.
- Disposable filiform acupuncture needle with guide tube is used.
- Guide tube minimizes pain

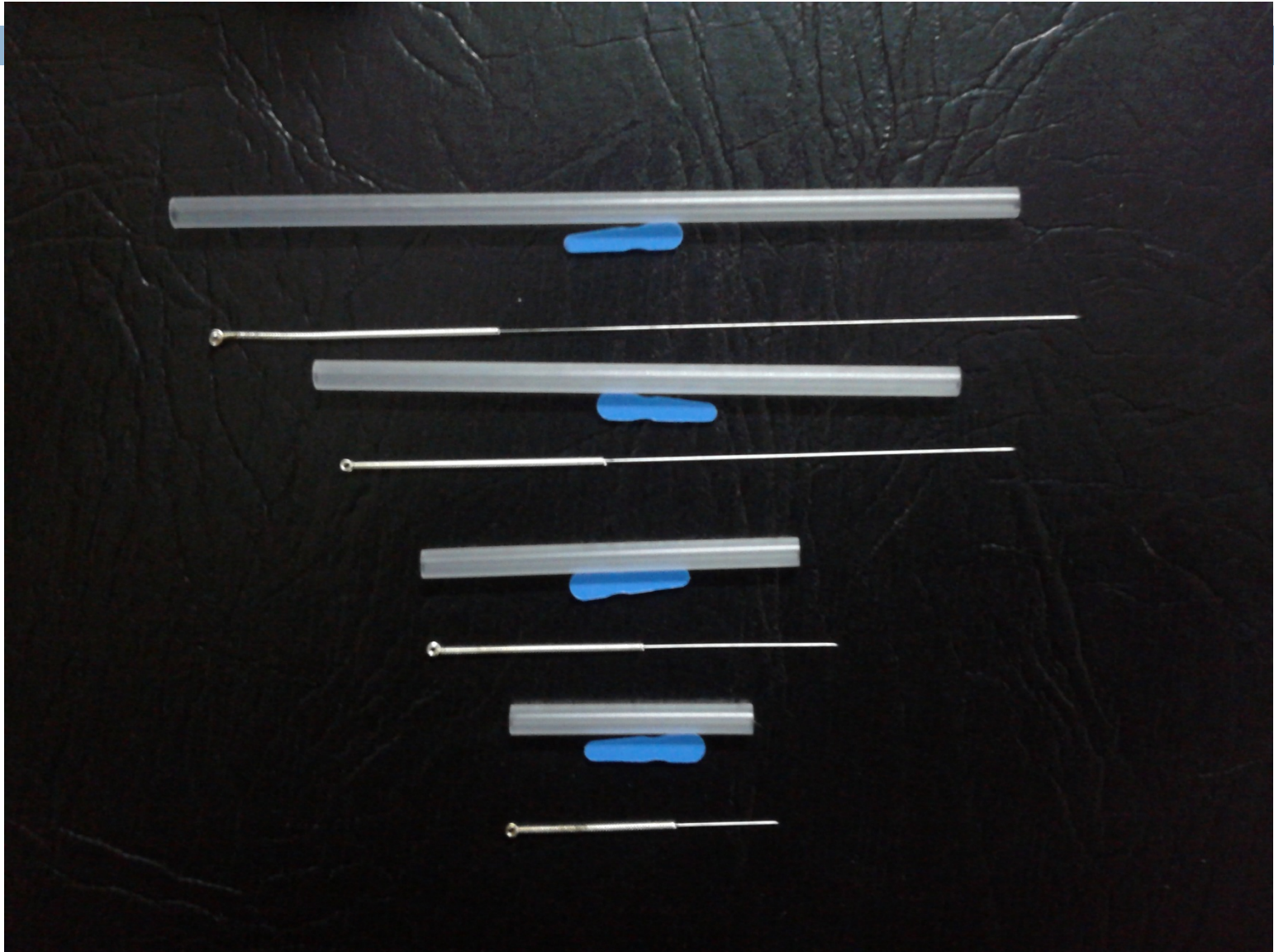
# Disposable sterile needles packed



# Needles with guide tubes



# Needles sans guide tube



# CLIENT POSITIONING

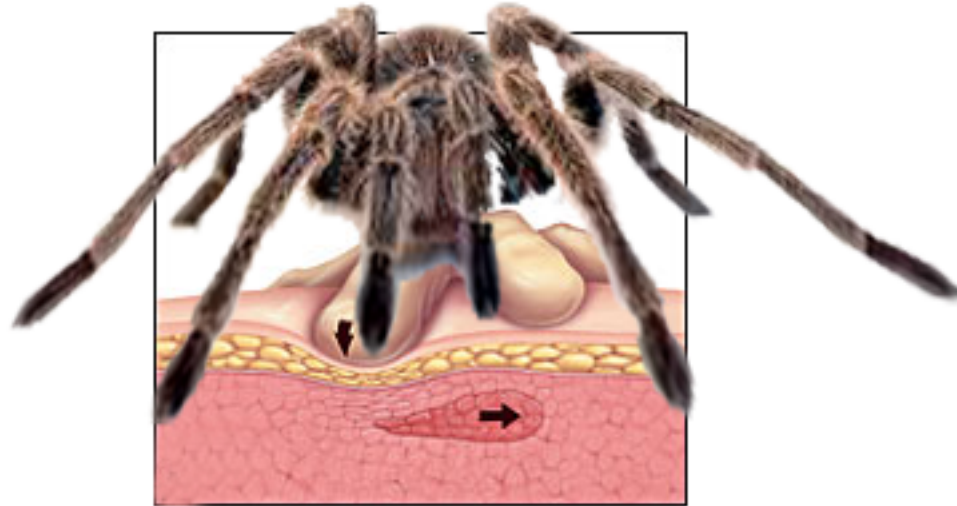
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- Supine
- Side lying
- Prone
- Sitting

# INSERTION TECHNIQUE

- Warning: Needling around areas of the upper cervical, thorax, supraclavicular & 12th ribs is potentially dangerous.
- Be as specific as possible (trigger points are only 1-2 mm wide), i.e. use 'tarantula trap technique'
- Consider angle when tapping needle (angle of attack). Once inserted into the skin it is difficult to change direction of needle without near full removal (tenting ceases).
- A slow insertion (1 mm/second) seems most comfortable for clients

# Tarantula Trap



Tarantula Trap - Palpation of Trigger Points

# SUGGESTED GRADING SYSTEM

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- Grade 1 (Insert and remove)
- Grade 2 (Up to 1 minute)
- Grade 3 (Up to 5 Minutes)
- Grade 4 (Up to 10 Minutes)
- Grade 5 (Electro acupuncture stimulation)

# EXTRA CONSIDERATIONS

- During the initial treatment it is better to under stimulate
- In conditions that have been present for greater than 3 months likewise minimise the stimulation
- 10% of the adult population and most children are 'strong reactors'; meaning they only require transient insertion for pain relief
- The number of points treated, depends upon client comfort and intensity of presenting trigger points
- Points should be palpated before and after treatment and objective signs reassessed

# AFTER NEEDLE INSERTION

- ❑ Slow removal, without direction change
- ❑ If a haematoma is formed, usage of local cooling will minimise bruising
- ❑ Often after 1 minute of needle removal the exquisite tenderness and spasm in the muscle usually has disappeared
- ❑ Follow needling with moist heat, range of motion exercises and gentle stretches.

Thank You!

The graphic features a vibrant, multi-colored brushstroke that transitions from blue on the left to yellow on the right, passing through purple, pink, and orange. Thin, elegant black lines are drawn over the brushstroke, creating a series of loops and swirls that add a sense of movement and grace to the composition.