

LAW #2

- If any scientific researches support one model, in fact, the research support all models

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LAW #3

- If any scientific researches denies or falsifies the theory of particular model, they only deny that theory, not the clinical practice of the model.
- This part of the law explains that the clinical technique is effective, but the theories which explain the technique can be scientifically wrong

LAW #4

- All needling techniques of different models are clinically effective
- One technique does not exclude the other.

LAW #5

- Physiologically all models do not conflict with each other
- Thus it is possible to integrate all models into a new model

EVIDENCE BASED MEDICINE

WHAT DATA CAN BE DEFINED AS EVIDENCE?

- All data can be used as evidence to support or falsify a particular model
- Highest quality of evidence is the randomized trials or systemic reviews of randomized trials
 - This category of evidence is the lowest likelihood of bias, and hence is the strongest evidence

LIMITATIONS OF EVIDENCE-BASED MEDICINE

- It has been recognized that providing evidence from clinical research is a necessary but not sufficient to provide optimal care
- Clinical practice should drive research
- Research should assist in clinical decision making
- Evidence, whether strong or weak, is never independently sufficient to make clinical decisions

The Concepts of Soft Tissue Dysfunction and Pain in Sports Injuries

USING SPECIFIC THERAPEUTIC TECHNIQUE FOR SPECIFIC PATHOLOGIC CONDITIONS

Soft tissue dysfunction and pain in sports injuries

1. Neuropathic factors (sensory, motor, sympathetic nerves)
2. Inflammation/edema
3. Contracture/spasm of soft tissues
4. Blockage of microcirculation
5. Tissue adhesion
6. Scar tissues
7. Muscle dystrophy/atrophy
8. Biomechanic imbalance



Dry Needling is Most Effective for:

1. Neuropathic factors (sensory, motor, sympathetic nerves)
2. Inflammation/edema
3. Contracture/spasm of soft tissues
4. Blockage of microcirculation
- 5.
- 6.
- 7.
8. Biomechanical imbalance

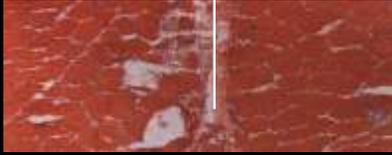


Electrical Stimulation of Needles is Most Effective for:

- 1.
- 2.
3. Contracture/spasm of soft tissues
4. Blockage of microcirculation
5. Tissue adhesion
6. Scar tissues
- 7.
8. Biomechanical imbalance

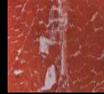
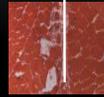


WHAT MAKES DRY NEEDLING THERAPY DIFFERENT FROM OTHER THERAPIES ?



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WHAT DOES DRY NEEDLING DO?



- Needling punctures the skin and inoculates tiny lesions to soft tissues (muscle fibers, tendons, ligaments, nerve endings, blood vessels, capillaries, etc.)
- The lesioned tissues will be replaced by the regenerated fresh tissues of the same kind without formation of scar tissue in 3-10 days

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WHAT DOES DRY NEEDLING DO?

- Muscle fiber diameters range from 10 to 100 μm
- One-inch deep needling may lesion at least 3,000 muscle fibers
- Three-inch deep needling plus needling manipulation may lesion more than 100,000 muscle fibers and the capillaries surrounding the fibers



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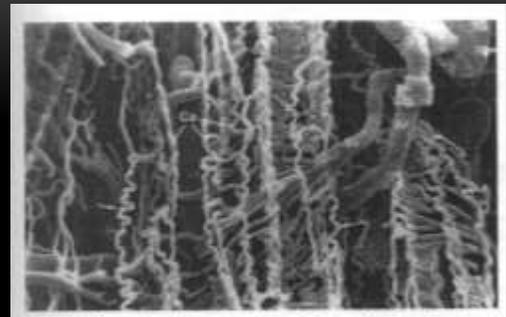
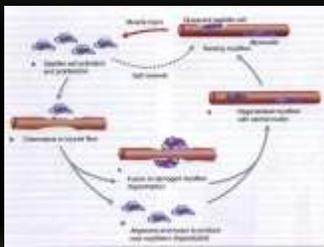


FIGURE 3.3 Microvascular selection in skeletal muscle. Capillaries (C) are oriented longitudinally in the same direction as the muscle fibers they supply. The capillary network is supplied by an artery (A) and drained by a vein (V). Reproduced from Kiesel and Knaflitz [27].

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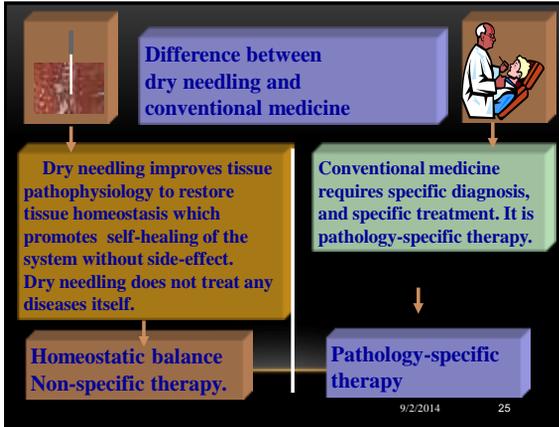
HEALING OF MUSCLE FIBERS



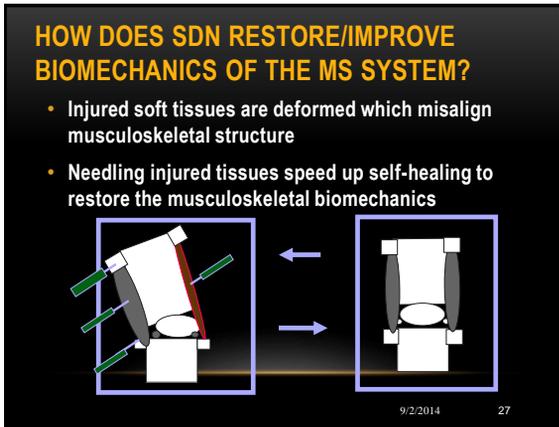
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PHYSIOLOGICALLY RELEASES:

- **Adenosine** (smooth muscle vasodilator)
 - **Hydrogen and nitric oxide** (skeletal muscle vasodilator)
 - **CGRP** (local anti-inflammatory and anti-nociceptive)
 - **Enkephalin** (anti-nociceptive in dorsal horn)
 - **Beta-endorphin** ("feel good" peptide released in brain)
- Blood circulation improves, swelling reduces, metabolism increases, inflammatory markers become diluted



- ### CHARACTERISTICS OF DRY NEEDLING THERAPY
1. Non-specific physiological normalization of soft tissue dysfunction
 2. Restoration of homeostasis
 3. Promotion of self-healing
 4. No interference with natural pathologic processes (Pain, inflammation, fever)



- ### SYSTEM DRY NEEDLING FOR ATHLETES
- Treatment of soft tissue injuries
 - Prevention of chronic injuries
 - Optimizing athletic performance
 - Health-promotion of athletes
 - Age Management (slowing body aging)
 - Prolong athletic career

Safety Issues in Dry Needling Practice

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Appropriate Accidents in China reported from 1992-2002

Type of injuries	Cases	Deaths
Pneumothorax	172	10
Rupture of trachea/allogate	19	0
Heart rupture	6	0
Large bleeding	12	4
Myocardial infarction	40	4
Cerebral bleeding	1	0
Lower injuries	3	0
Subarachnoid space bleeding	49	2
Trachea rupture	3	0
Intestine rupture	15	2
Uterine rupture reaction	10	2
Cerebellar injuries	1	1
Spinal cord injuries	4	0
Soft tissue injuries (scraping)	412 (specifically due to wet needling)	
Stroke	164	
Rupture of parathyroid arteries	85	
Allergic reactions	19	
Capillary rupture	18	
Nerve root injuries	12	
Stomach rupture	6	
Blood vessel inflammation	7	
Spleen rupture	3	
Kidney rupture	3	
Urinary bladder rupture	2	
Other unknown reactions	91	
Total	1188	31 (2.6%)

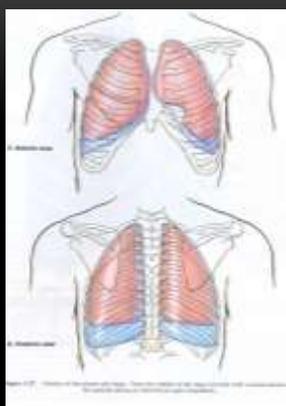
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No needling in lung area.

Apply only vacuum therapy to this area.

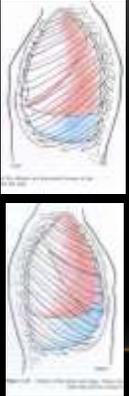
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No needling in lung area including anterior and posterior chest areas.

Apply only vacuum therapy to this area.

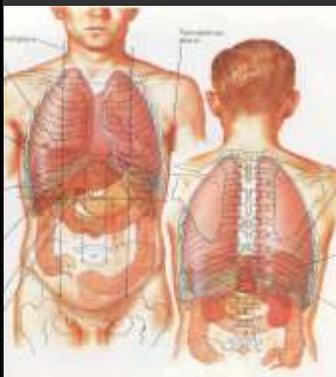
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No needling in lung area including both lateral area.

Apply only vacuum therapy to this area.

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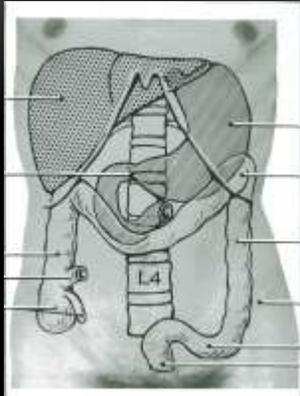


No needling in abdominal and kidney areas.

Note: right kidney is lower than the left one.

Apply only vacuum therapy to this area.

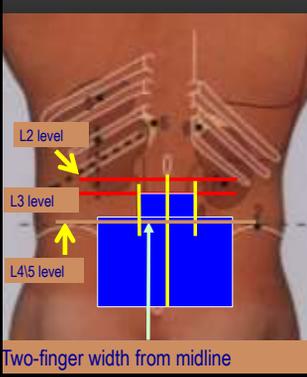
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No needling in abdominal area.

Apply only vacuum therapy to this area.

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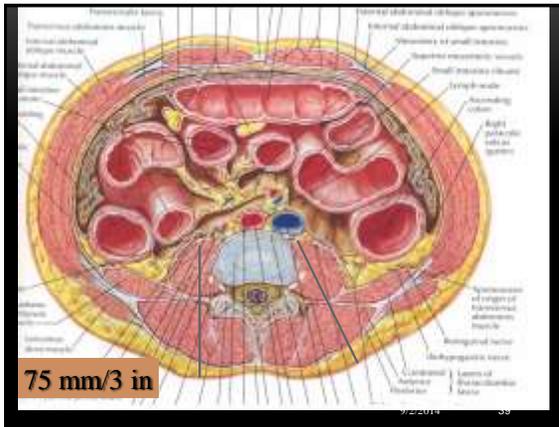
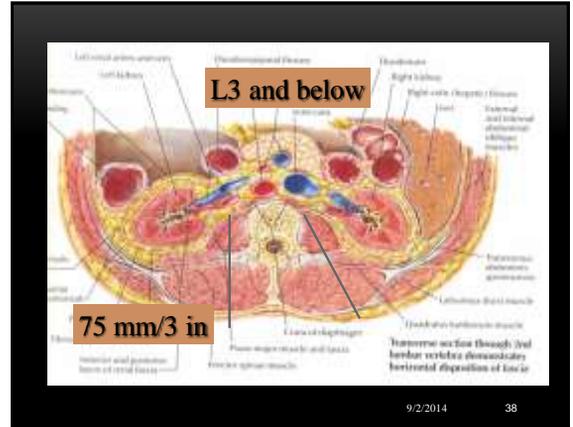
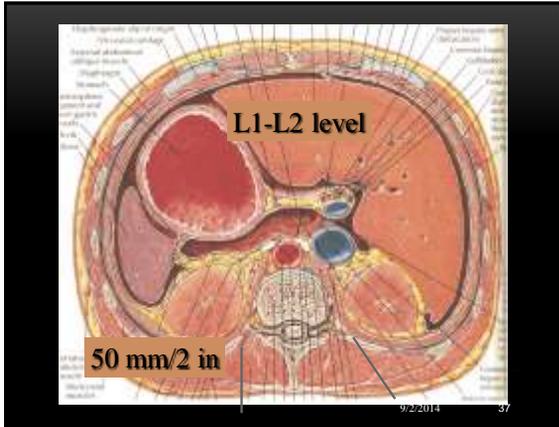


No needling above L3 level.

Needle only blue area below L3 level, two finger width away from midline.

Two-finger width from midline

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Types and Frequency of Short Term Reactions Associated with Acupuncture

Acupuncture in Medicine 2005; 23(3):112-120

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Table 1. Positive Reactions n=9408

Type of event	Number of reported reactions	%
Relaxed	7436	79.1
Energized	3072	32.7
Other positive	166	1.8
Tiredness or drowsiness	2295	24.4

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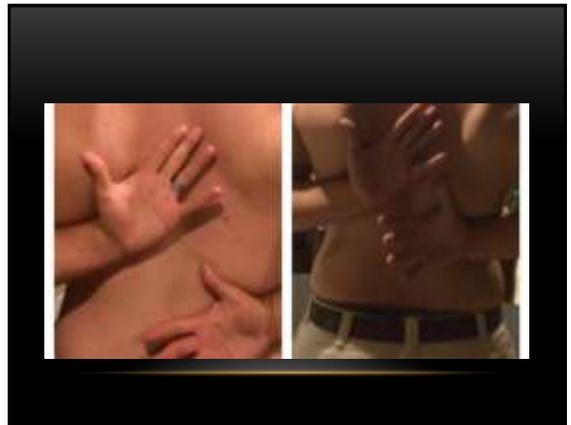
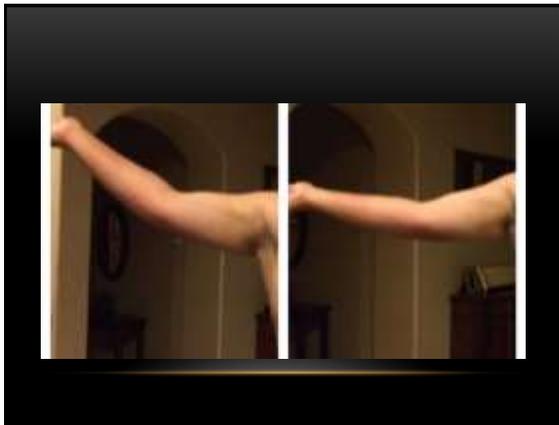
Table 2-1 Negative Reactions, n=9408

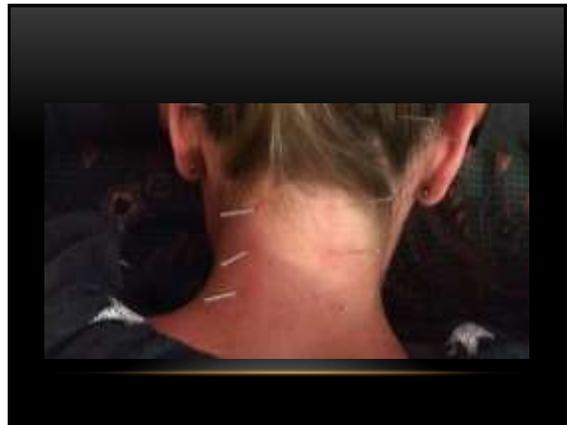
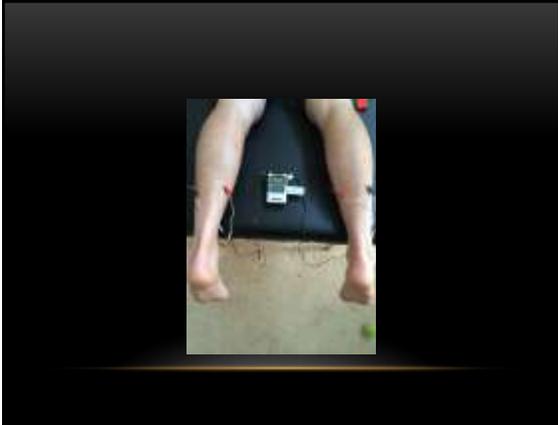
Type of event	Number of reported reactions	%
Pain where needle was inserted	1154	12.3
Bruising	378	4.0
Pain other than at site of needling	373	4.0
Faint/dizzy	248	2.6
Worsening of condition	165	1.8
Nauseous	111	1.2

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Table 2-2 Negative Reactions, n=9408

Sweating	79	0.8
Bleeding	66	0.7
Disorientation/anxiety/ nervousness/insomnia/emotional	63	0.7
Ache/discomfort other than at needle point	49	0.5
Itching/pins & needles/tingling/ burning sensation	33	0.4
Irritation/ache at needle point	24	0.3
Other negative	33 _{9/2/2014}	0.4 ₄₃





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