Shoulder-Hand syndrome

The common complications of upper limbs after stroke

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Physical therapy

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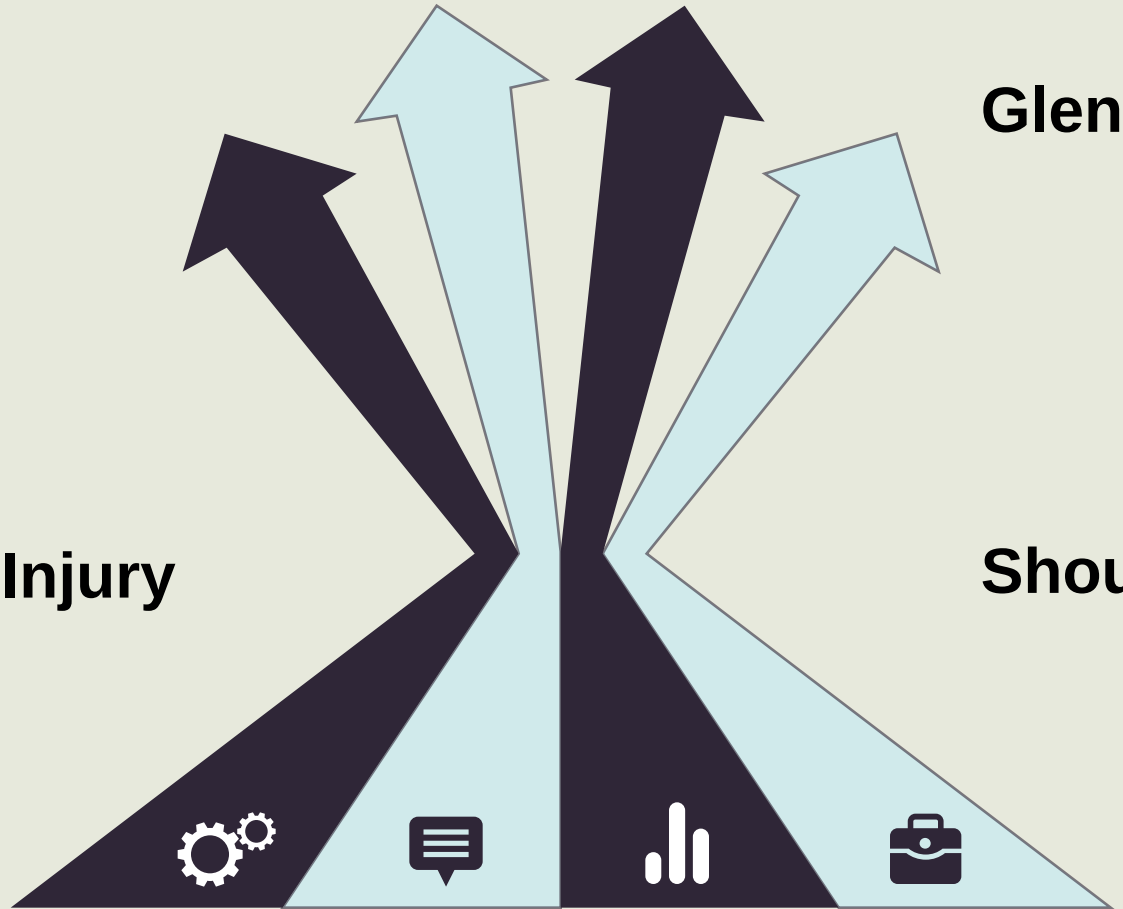
Common complication

Shoulder Pain

Brachia Plexus Injury



Glenohumeral Subluxation

Shoulder-Hand Syndrome

(王茂斌,2006)

Definition

- SHS is a concurrent syndrome with the main clinical manifestations of shoulder dyskinesia, ipsilateral hand, wrist pain after stroke.
- 12.5% to 70%
- 1 - 3 months after stroke.

(WANG Jun,2015)

Etiology mechanism

- Sympathetic dysfunction
- Shoulder hand pump dysfunction
- Relative disuse and abnormal tension
- Psychological factors

(Neil Gordon,1996
Veldman PHJM,1995)

Clinical stages

1　First Stage　(< 6 months)

- painful, warm, red, sweaty and swollen
- Color of hand change
- limitation of ROM

(王茂斌,2006)

Clinical stages

2 Second stage (3-6 months)

- Edema and pain resolve
- Atrophy aggravate
- Obvious activity limitation

(王茂斌,2006)

Clinical stages

3 Third stage

- Obvious atrophy
- Complete contracture and deformity
- Losing motor function Permanently

(王茂斌,2006)

Diagnosis

- Diffuse pain
  - often non-anatomic
  - out of proportion to the cause
- Loss of function
- Autonomic dysfunction

(王茂斌,2006)

Purpose of assessment

1

- determine damage degree

2

- develop rehabilitation goals

3

- estimate treatment outcome

4

- evaluate prognosis

Assessment scale

- Visual Analogue Scale VAS
- Fugl-Meyer Assessment FMA
- Modified Barthel Index MBI

Physical therapy

Physical therapy

Posture

Physical factors

Manipulation

Therapeutic exercise

Normal limb posture

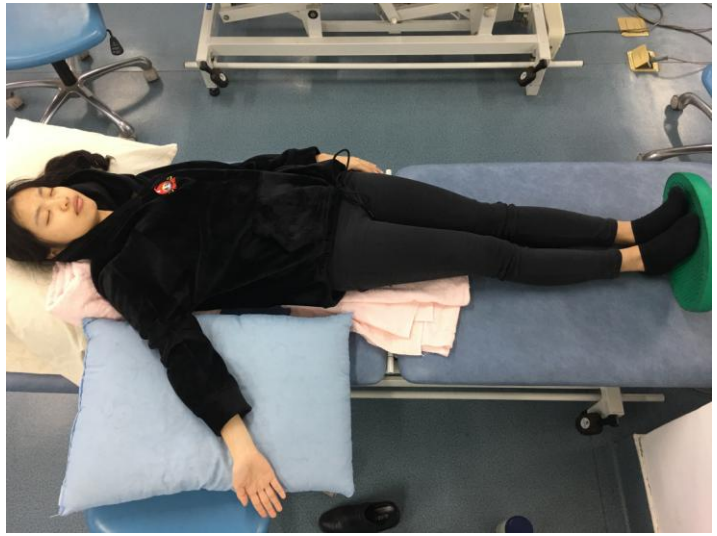
Principle:

- Reasonable
- Comfortable
- Antispasmodic

Method:

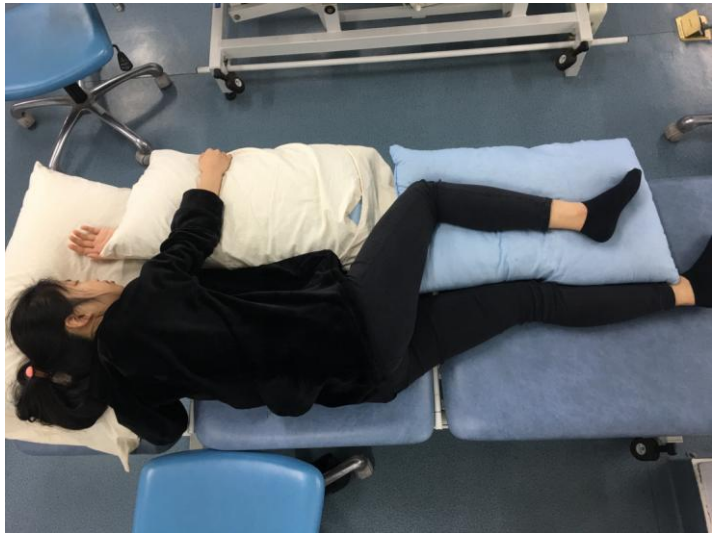
- Inhibit to the pathological pattern

Normal limb posture



01

Supine position



02

Lateral position in normal side

03

Lateral position in effected side

(李敏,2013)

Normal limb posture

Attention:

- Turn over every 2 hours

- Educate patients to turn over by themselves if possible

Physical therapy

Posture

Physical factors

Manipulation

Therapeutic exercise

Physical factors

Positive pressure sequential therapy (朱卫娟,2012)

Alternating hot and cold whirlpool bath （李晓东，2016）

Trigger point stimulation therapy （费立凤，2009）

Physical factors

Hyperbaric Oxygen
（刘敏，2008）

Ice
(杨亚婕, 2005)

Intermediate frequency electrical current
（李水琴，2010）

Manipulation

Aim

- Improve the circulation system
- Try to prevent the limitation of ROM

Details

- Grade I or II
- With no pain intensified
- Half an hours * twice a day * 3 months
- Pay attention to the heart rate, pulse, blood pressure

Manipulation

Shoulder joint: 

Position

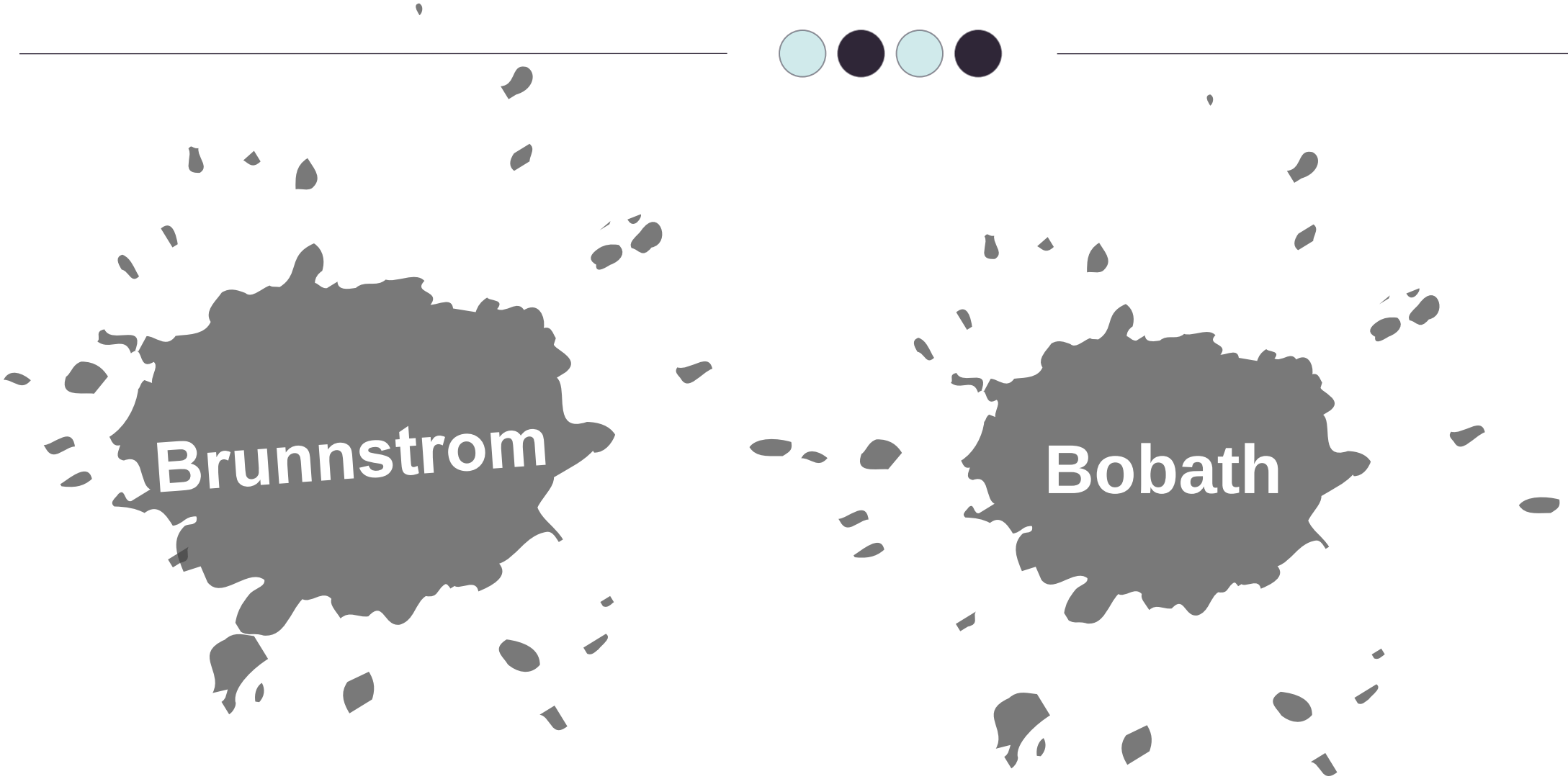
the head of humerus in glenoid cavity

PT

- stabilize the upper limb
- abduction and adduction
- longitudinal movement
- circular movement

（张薇，2009）

Therapeutic exercise



Bobath therapy

- Reflex inhibiting pattern (RIP) 

Aim — antagonise the abnormal spasmodic posture and behavior

Theory — reflex muscle contraction is the symbol of the earisest stage to obtain motor control

Bobath therapy

- key point control 

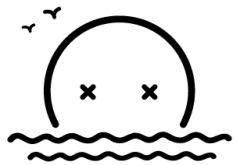
- Aim — cause the appearance of the normal muscle tension

- Manipulation — shoulder and middle and lower manubrium

  and gently do the circle movement like ∞

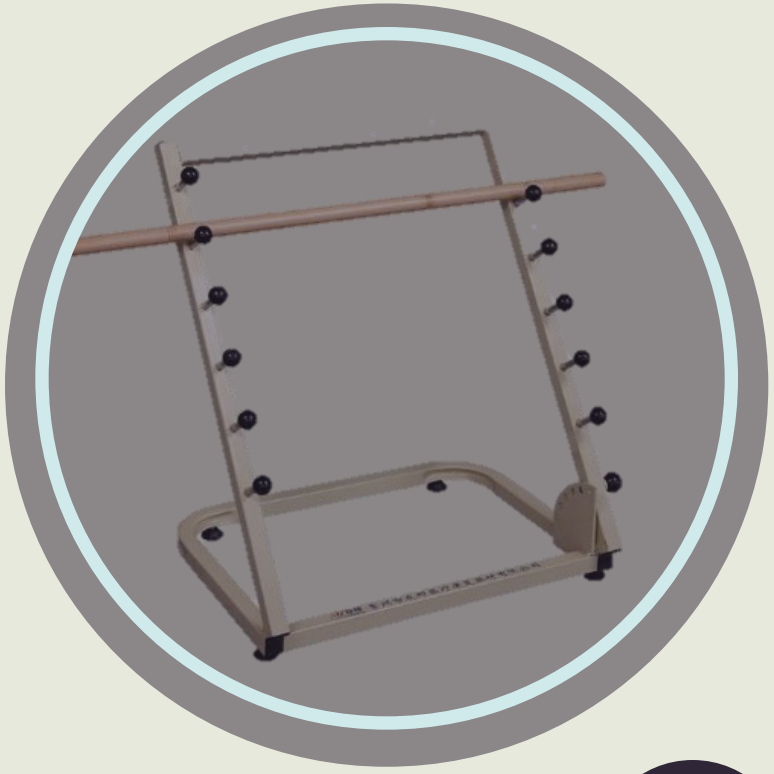
Bobath therapy

- motor control



flex below the head with Bobath

grasp with no pain increased



Occupational therapy

Occupational therapy

- Engage in those activities positively
- Use the acquired ability to their daily live
- Increase their activity time
- Improve mental condition.
- The patients’ recovery to the maximum extent.

Occupational therapy

Concentric compression

Upper limb functional training

Gross movement of upper limbs

Fine hand function training

BADL training

(夏隽晖等,2013)

Occupational therapy

Concentric compression

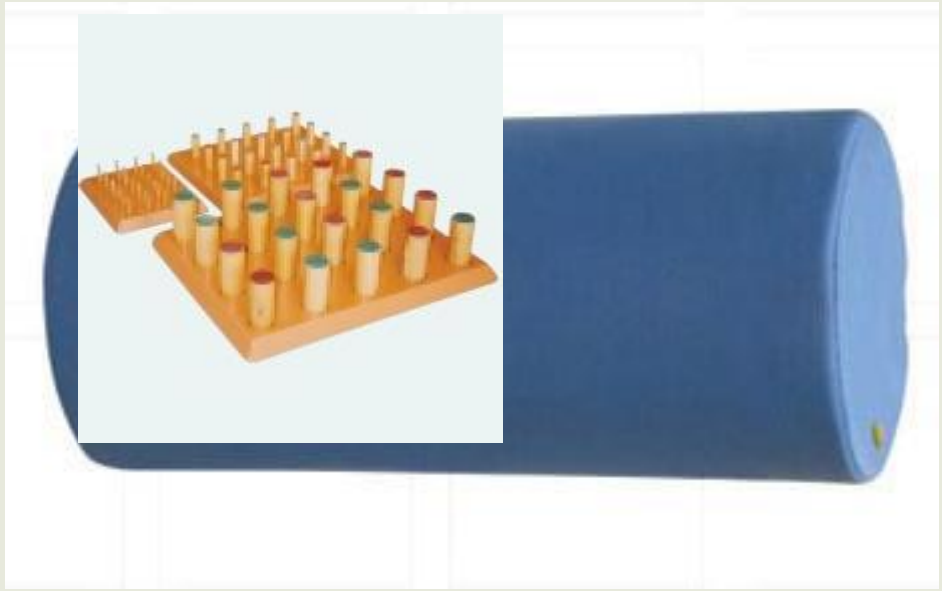
- From the distal to the proximal end
- The nail to the proximal end
- The metacarpophalangeal joints to the proximal end
- Wrist to proximal forearm winding
- Cooperate with splint

(董福生等,2002)

Upper limb functional training

Gross movement of upper limbs

- Pegboard training
- Drum training
- Grind sand plate training
- Push the ball



(夏隽晖等,2013)

Upper limb functional training

Fine hand function training

- Beading
- Pick up the beans
- Screw cap

Upper limb functional training

BADL training

- Grooming
- Eating
- Dressing，etc

(廖华薇,2006)

Chinese traditional treatment

Chinese traditional treatment

01

Acupuncture

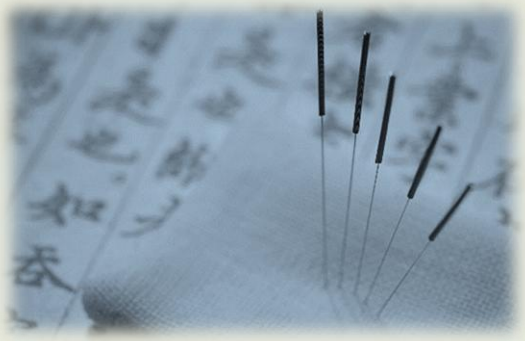
02

Traditional Chinese medicine

Acupuncture

Electroacupuncture

(段英春等,2014)



Fire needle acupuncture

(杨娟等,2011)

Floating-needle therapy

(周昭辉等,2014)

Acupuncture

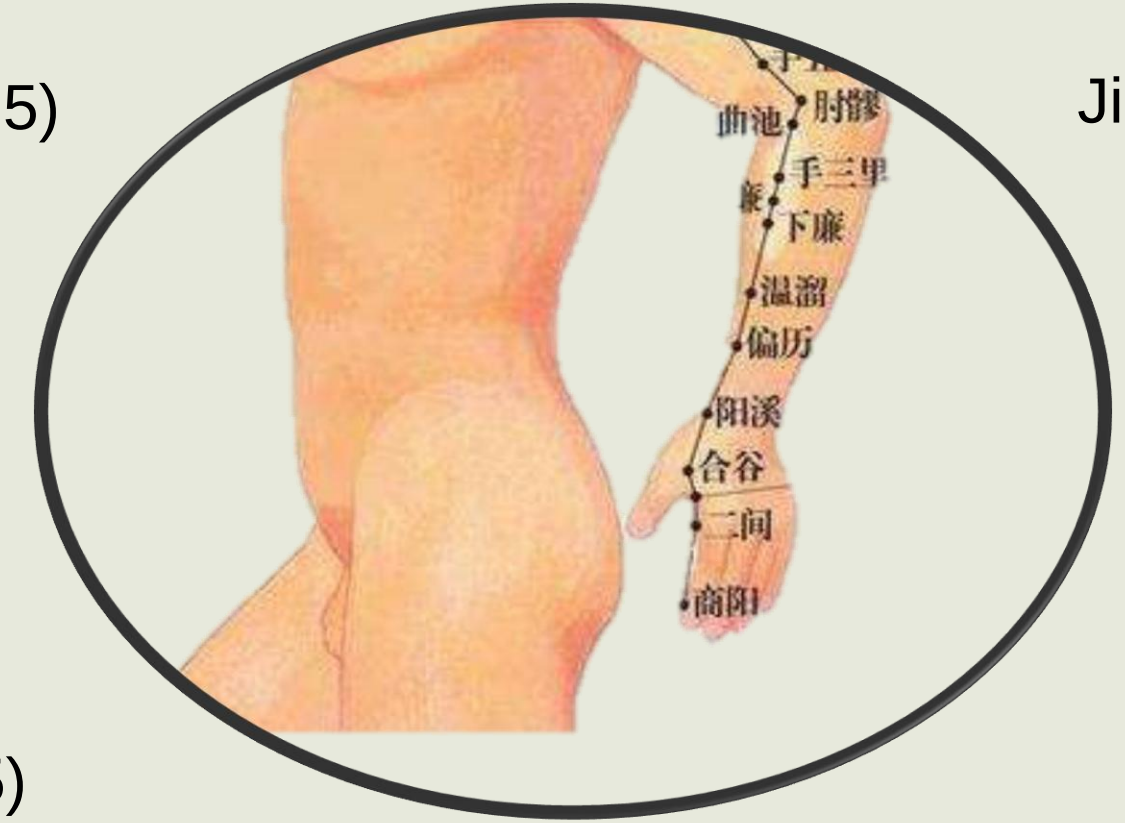
Jianyu(LI15)

Hegu(LI4)

Quchi(LI11)

Waiguan(TE5)

Jianliao(TE14)



Jianzhen(SI9)

Shousanli(LI10)

Tianzong(SI11)

Biru(LI14)

(黎明全等,2015)

Conclusions

- Prevention is important
- Multiple therapy is more effective
- Strengthen nutrition and psychological management

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Thanks