

# The Treatment of Neck and Upper Back Pain with Acupuncture

by Hugh Macpherson

**C**hronic neck or upper back pain which may also involve pain radiating down the arm is particularly debilitating and demoralising.

For those who suffer with this condition, the conventional approach to diagnosis and treatment is often limited. I will begin by describing the Western medicine perspective, then move on to looking at how one might use acupuncture within the context of traditional Chinese medicine (TCM).

## WESTERN MEDICINE

From an orthodox medical perspective, neck and upper back pain can usefully be divided into five categories based on the underlying pathology. The X-ray is one of the primary investigations and is much used in diagnosis.

### 1. Structural

This is most commonly seen as a result of trauma or injury. The two most likely causes with a structural basis are i. Fracture: where there is a break in the vertebra and consequent pressure on the nerve root, ii. Misalignment of intervertebral foramen: where there is a displacement or a rotation or a misalignment between two vertebrae or between two intervertebral joints such that the nerve root is caught or trapped.

### 2. Inflammatory

This is usually seen as inflammation of the synovial joints of the spine and is often diagnosed as spondylitis. One form is known as ankylosing spondylitis where the whole spine can become inflamed. Over time this can result in a fusion of the vertebrae across joint spaces resulting in the so-called 'bamboo' spine.

### 3. Degenerative

A variety of degenerative conditions can cause neck or upper back pain as the chief complaint. The most commonly known are i. Narrowing of the intervertebral disk spaces. As a result of degeneration or prolapse of the disk, the space between the two vertebrae can be reduced to the point where pressure comes to bear on the nerve root. This condition is sometimes known as spondylosis; ii. Osteophytes: these are bone growths that form spurs protruding out from the vertebra. In turn they may put pressure on the nerves causing pain; iii. Osteoporosis: this may involve crumbling of the vertebral bones which in turn may lead to a nerve-related pain.

### 4. Malignant

Primary cancer: in this case it is likely to be a myeloma or plasmacytoma. An X-ray will show a dark patch as though a hole has been punched in the vertebra.

Secondary cancer: there are two types of secondaries, either osteolytic where the primary site of the cancer is usually either the breast or the bronchus, or sclerotic where the primary site is often the prostate. In the osteolytic type, the X-ray will show a hole or missing section of vertebra, while in the sclerotic type the bones will look whiter than normal as a result of the calcium deposited.

Patients with either primary or secondary cancer may have neck or upper back pain as their first sign of a serious underlying pathology. So it is important that as acupuncturists we are on the look out for cancer. How do we tell from the signs and symptoms? A key factor is the likelihood that the pain is progressively getting worse and worse. A steady deterioration is a sign of the increasing influence of the cancer. In addition the pain is likely to be persistent and continuous. There may be some generalised symptoms that are often associated with cancer such as weight loss, anaemia, loss of appetite and tiredness. Where we suspect a serious underlying pathology, we need to ensure that the patient has the necessary investigations which will certainly include X-rays but may also involve a lumbar puncture or myelogram.

### 5. Non-specific

It is the experience of orthopaedic specialists, whether they be surgeons, physiotherapists or radiographers, that in a high proportion of patients with neck and upper back pain, there is no adequate explanation or understanding of the underlying pathology. It is estimated that as many as 80% of all patients referred for X-ray with neck pain could be diagnosed as having non-specific neck pain. In a textbook on rheumatic diseases, Jayson (1978) writes: "It is possible to make a definitive diagnosis of a prolapsed disc or cervical spondylosis in some cases, but in many instances the diagnosis is uncertain, and these are best described as non-specific neck pain. There is a wide variety of different forms of neck pain which arise spontaneously or following trivial pain and are associated with little or no radiological changes. Such pain may follow exposure to cold or damp, sleeping in an uncomfortable position, prolonged driving, or any manoeuvre in which the head is held constantly in

one position".

The issue of radiological change and its relationship to neck and upper back pain is an interesting one. It is well known that many patients with severe pain have no signs indicating this possibility on their X-rays. Less well known is the fact that many people with obvious radiological changes that would lead one to suspect neck pain are in fact pain-free. A study undertaken by Heller et al (1983) compared two groups of patients over 60. Despite the fact that one group were specifically being X-rayed for neck complaints, while the other group had no problems with their necks at all, the researchers found no significant differences in the local radiological changes between the two groups! In other words there was no consistent relationship between the presenting symptoms and the radiological change.

#### Treatment by Western medicine

Leaving aside the treatment in cases of malignancy, the orthodox medical approaches include a mixed bag of immobilisation, wearing a collar, traction, mobilisation, ultrasound, interferential, and surgery. In addition there are various drug options to reduce inflammation and/or render the pain more bearable. While the Western medicine diagnosis may be accurate, it does not follow that the Western medicine treatment will be successful. Indeed it is because the success rate in orthodox treatment is low that so many patients try acupuncture as an alternative.

## TCM

The approach with the framework of TCM is to identify the pattern of disharmony and treating accordingly. The three most commonly occurring patterns are:

### 1. Stagnation of Qi and Blood due to trauma or sprain

*Aetiology:* soft tissue injury (e.g. sprain, whiplash), poor posture in sedentary work, history of repeated sprain.

*Symptoms:* sudden onset, acute pain, stiffness, limitation of movement, rigidity, maybe bruising, no improvement with rest, usually worsened with movement.

*Treatment principle:* move stagnation of Qi and blood, stop pain.

*Selection of points:* The selection of points should reflect the location of the pain and the type of disharmony. With stagnation of Qi and blood, the primary requirement in point selection is to move the Qi and blood. Palpation of the affected area is necessary, and local points are chosen on the basis of obvious tenderness. This is particularly relevant when choosing Huatuoji points and of course Ahshi points. Adjacent points are chosen on the basis of their energetic action and are usually on the same channel as the affected area. Distal points are often on the same channel or the paired channel (e.g. Kunlun BL-60 or Houxi SI-3 for pain at Tianzhu BL-10 on the neck). On the basis of channel differentiation, it is clear that Kunlun BL-60 is a distal point for injury affecting the posterior aspect of the neck, whilst Xuanzhong GB-39 is for injury to the lateral aspect of the neck. A typical prescription of points would include a few local points, an adjacent

point and a distal point.

*Points:*

- a. Injury to the posterior aspect of the neck; pain may radiate down to the shoulder and arm.
  - Local points: Huatuoji points, Ahshi points, Tianzhu BL-10.
  - Adjacent points: Dazhui DU-14, Dashu BL-11.
  - Distal points: Houxi SI-3 (especially effective for acute problems - have the patient move the neck while needling this point), Kunlun BL-60.
- b. Injury to the lateral aspect of the neck:
  - Local points: Ahshi points, Wangu GB-12, Fengchi GB-20, Tianyou SJ-16.
  - Adjacent points: Jianjing GB-21, Tianliao SJ-15.
  - Distal points: Waiguan SJ-5, Xuanzhong GB-39, Zulinqi GB-41.
- c. Acute stiff neck (e.g. on waking):
  - Special point: Luozhen (Extra) needled whilst the patient rotates the neck.
  - Distal points: Houxi SI-3, Xuanzhong GB-39.

*Needle technique:* For Houxi SI-3 and Luozhen (Extra), rotation of the head and neck during needling can produce a dramatic and immediate improvement. For this procedure, it is best to have the patient sitting up so that their head is free to move. First insert the needle to obtain Qi, then instruct the patient to move their head and neck, gradually extending the movement where there is restriction or pain. As the patient is doing this, strongly manipulate the needle with reducing method for two or three minutes. Patients usually find that there is a considerable reduction in symptoms by the end of this period. Following this, the patient may lie down and the other points are needled for the normal 20-30 minutes.

From my experience, I cannot understate the importance of the Huatuoji points. The Qi and blood that stagnates at the cervical or upper thoracic vertebrae seems to stagnate at quite a deep level. It is often necessary to needle these points to a depth of 1.5 cun, or even 2 cun on particularly bulky patients. As with any chronic stagnation, a strong sensation of Qi at the point seems to significantly improve the speed of recovery. However care must be taken when needling the Huatuoji points to such a depth, ensuring that the needle direction is towards the centre of the spinal column, thereby avoiding any possibility of pneumothorax.

*Remarks:* In general, the more recent the sprain or injury the more quickly the condition responds to treatment. Often one treatment will suffice for a one or two day old sprain. More commonly we see patients who have had their problem for years, such as an old whiplash injury from a car accident several years past, in which case ten to thirty treatments may be necessary.

#### Case 1

Male, 43 years old, civil engineer, married with 3 children, a big man of 6 foot 2 inches and 15 stone.

*Clinical manifestations:* pain in the right shoulder and down the right arm. Pain is sometimes accompanied by pins and needles. He has been in constant pain since he slipped and fell on a wet linoleum floor 5 weeks ago, landing awkwardly and taking his weight on his left arm. Stretching, warmth and gentle exercise seem to

give temporary relief. He has no stiffness or restricted movement. Rotating his head and neck may trigger off the pain in the shoulder. He also has a history of lower back problems, and he considers himself overweight. Physical examination revealed marked tenderness at the Huatuoji points of C7, T1 and T2, especially on the right side. The pain was at its worst at Jianyu L.I.-15 and Jianliao SJ-14 on the right side. Pulse: slightly slippery. Tongue: normal colour, slightly red tip, thin white coat. *Differentiation*: the sudden onset of the pain as a result of the fall indicates stagnation of Qi and blood. This is supported by the fact that he gets temporary relief with stretching, warmth and gentle exercise.

*Aetiology and pathology*: obviously the fall caused the stagnation of Qi and blood. Although he is presenting primarily with a shoulder and arm problem, there are several clues that point to the upper back being the area most affected by the stagnation of Qi and blood: i. he fell on his left, not his right where the pain is experienced, ii. when he rotates his head and neck he can feel the pain radiating down his arm, iii. the Huatuoji points at C7, T1 and T2 are more tender on the right. Thus when he fell, stagnation of Qi and blood was induced in his right upper back area. Treatment therefore must be directed primarily to this area.

*Treatment principle*: move stagnation of Qi and blood in the channels.

*Treatment plan*: this is quite a straightforward condition to treat and would be expected to respond well over 10 treatments with a frequency of 2 visits per week.

*Points*: at the first treatment, the Huatuoji points at C7, T1 and T2 and the points Jianliao SJ-14 and Jianyu L.I.-15 were needled on the right side and Houxi SI-3 was needled bilaterally. The patient experienced a dramatic reduction in pain after the first treatment. Eight subsequent treatments were given using similar points, with the addition of points such as Naoshu SI-10, Jianjing GB-21 and Quchi L.I.-11. By the end of these treatments he was significantly better and still improving.

*Comment*: What was interesting about this case is how the presenting symptoms of shoulder and arm pain were actually referred pain from the upper back and neck. This situation parallels cases of sciatica where the patient experiences no low back pain, but tenderness on palpation of the lower lumbar Huatuoji points indicates low back involvement. The importance of physical examination cannot be overstressed. It will reveal key information which, as in cases such as this, will be central to the treatment. Put another way, knowing that a patient has stagnation of Qi and blood may well be fairly obvious, i.e. a recent sprain. Treatment, however, must necessarily be guided by the location of the stagnation.

## 2. Invasion of External Pathogenic Factor (Bi syndrome)

*Aetiology*: Exposure to wind, cold and damp, especially after sweating, when tired, late at night, or while hungry. Alternatively an old injury such as whiplash, or poor posture, will increase susceptibility to invasion. Long term retention of cold and damp may transform to heat.

*Symptoms*:

- Cold Bi: pain, stiffness, tightness of muscles, worse

with cold, especially a cold wind, better with heat, pain may be worse at night, the local area may feel cold to the touch, stiffness and pain temporarily worse after periods of immobility or on awakening, stiffness eases with movement.

- Damp Bi: pain, stiffness, heaviness, possibly generalised body aches and heaviness, worse on damp muggy days, better in dry weather, stiffness and pain worse after periods of immobility, stiffness eases with movement.

- Wind Bi: pain and stiffness, worse on windy days, feels worse in a draught, pain can move up and down or from side to side.

- Hot Bi: pain and stiffness, excruciating pain, unbearable pain on light pressure, local redness and sensation of heat, symptoms worse in heat.

*Treatment principle*: expel cold/damp/wind/heat, move stagnation of Qi and blood, warm the channels (if cold).

*Points*: When treating Bi syndrome, points to expel the pathogenic factor should be used in conjunction with local, adjacent and distal points chosen on the basis of the location of the pain.

- Cold Bi: Zusanli ST-36, Quchi L.I.-11.

- Damp Bi: Yinlingquan SP-9, Sanyinjiao SP-6, Taibai SP-3.

- Wind Bi: Zhigou SJ-6, Xuanzhong GB-39, Fengchi GB-20, Fengfu DU-16.

- Hot Bi: Dazhui DU-14, Quchi L.I.-11, Hegu L.I.-4.

- Local: Ahshi points, Huatuoji points, Tianzhu BL-10, Wangu GB-12, Fengchi GB-20, Dazhui DU-14, Yamen DU-15, Fengfu DU-16.

- Adjacent points: Jianjing GB-21, Tianliao SJ-15.

- Distal points: Houxi SI-3, Kunlun BL-60, Waiguan SJ-5 or Zhigou SJ-6, Xuanzhong GB-39.

- Moxa as appropriate.

The choice of local points would depend on the exact location of the pain and is best determined by a thorough physical examination. For adjacent and distal points, use points on the same or paired channels.

*Remarks*: Bi syndrome is not always reflected on the pulse and tongue. This is because Bi syndrome is an external condition and the pulse and tongue will tend to reflect internal disharmony. A pulse or tongue that does not fit the symptoms of Bi syndrome can be assumed to be indicating a deeper disharmony.

This pattern of disharmony is often seen in conjunction with the previous pattern of stagnation of Qi and blood. Previous trauma or injury to the area increases the susceptibility to invasion by an external pathogenic factor.

Bi syndrome without this complication responds remarkably well to the effects of 5 to 10 treatments. Results are slower when there is a history of trauma such as an old whiplash injury. In such cases the patient may need 20 to 30 treatments.

### Case 2

Male, 60 years old, works as a labourer, white hair, red weather-beaten face, heavily built.

*Clinical manifestations*: He has had pains from the upper back out to his shoulders and down both arms for the past two years. His arm/shoulder pains are worse at night, worse after inactivity, and there is marked stiff-

ness first thing in the morning until he gets going. The pain and stiffness are eased by movement and activity. A hot bath eases both the pain and the stiffness. Physical examination reveals pain in the upper thoracic vertebrae, especially T1 and T2 with marked tenderness at Tianliao SJ-15, Jianliao SJ-14 and Naoshu SI-10 bilaterally. His pulse is slow and wiry. His tongue is a normal colour with a sticky yellow coating.

*Differentiation:* cold Bi syndrome is indicated by pain and stiffness that is better with heat and eased by movement. Stiffness first thing in the morning which is eased by activity, and pains which worsen at night are common characteristics of cold Bi. The slow pulse may also be an indication of cold. The sticky yellow tongue coating indicates some internal heat, unrelated to the Bi syndrome which may result from his habit of smoking.

*Aetiology and pathology:* his work as a labourer has involved prolonged exposure to the elements. Over time the penetration of external pathogenic cold has blocked the natural flow of Qi and blood.

*Treatment principle:* move stagnation of Qi and blood, warm the channels.

*Treatment plan:* This is Bi syndrome due to prolonged exposure to exterior pathogenic factors over many years. A treatment plan of 10 treatments starting twice a week was agreed.

*Points:* For the first treatment the following points were used: Huatuoji points at T1 and T2, Naoshu SI-10, Jianliao SJ-14, Tianliao SJ-15 and Houxi SI-3, all bilaterally, with moxa on the needles at the Huatuoji points. Further treatments used similar points, sometimes also using Jianyu L.I.-15, Quchi L.I.-11 and Waiguan SJ-5.

*Outcome:* Almost immediately on commencing treatment he started sleeping through the night. After ten treatments he was free of pain and stiffness except for an occasional twinge. A year later he reported that he had been fine all year with no relapse in his condition.

### 3. Liver Qi stagnation/Liver-Yang Rising

These two syndromes are here presented together. In practice one can see either syndrome on its own or some combination of the two. What links the two is the Liver disharmony and susceptibility of the patient to emotional stress.

*Aetiology:* long-term emotional stress, frustration, anger (expressed or repressed), lack of exercise, sitting in one position for a long time, poor posture, overwork. These factors tend to constrain the Liver Qi, or, in the case of overwork, damage the Liver-Yin causing Liver-Yang to rise.

*Symptoms:* pain, stiffness, maybe one-sided; symptoms worse with stress or when upset or angry and better with relaxation and massage. Associated symptoms may include irritability, flushed head or upper body, sometimes worse in the afternoon and evening, red eyes or blurred vision, possibly heavy and muzzy head and poor concentration.

*Pulse:* wiry, possibly thin and rapid. *Tongue:* could be normal, possibly red edges.

*Pathology:* The associated symptoms are due to the nature and action of the internal syndrome(s). The irritability, flushed head/upper body and red eyes or blurred

vision are all due to the rising of Liver-Yang: heat rises and so one sees heat signs in the upper part of the body. As the Liver-Yang rises it can carry phlegm up to the head giving symptoms of heavy head, dizziness, muzziness and poor concentration.

*Treatment principle:* move the Liver Qi and/or sedate Liver-Yang; where necessary nourish Kidney and Liver Yin; move Qi and blood in the channels.

*Points:*

- Ahshi points - selected according to palpation.
- Tianliao SJ-15 - adjacent point, use when tender.
- Fengchi GB-20, Jianjing GB-21 - to sedate Liver-Yang, key points for this condition.
- Taichong LIV-3 to move Liver-Qi and sedate Liver-Yang.
- Hegu L.I.-4 - combined with Taichong LIV-3 to sedate Liver-Yang.
- Baihui DU-20 - to sedate Liver-Yang.
- Waiguan SJ-5 - to sedate Liver-Yang.
- Sanyinjiao SP-6, Taixi KID-3, Zhaohai KID-6 - to nourish Yin.

Moxa is contraindicated - especially in cases with hypertension.

*Remarks:* Given the stresses and pressures of life, it is not surprising to encounter this pattern frequently in the clinic. Indeed it is not uncommon to see this pattern combined with stagnation of Qi and blood. The outcome of treatment can be predicted less easily here. This is partly because Liver-Yang Rising is in part a deficient condition, i.e. with underlying Liver-Yin-Xu, and any deficiency takes some time to treat. Partly too this pattern is less predictable to treat because there is an up and down path in the healing process which is characteristic of Liver patterns. For example, the first treatments can give a dramatic improvement to the symptoms but then equally quickly the patient can have a set-back. Patience is a virtue here, the more so if the patient loses theirs. The third reason why the outcome is less easy to predict is that the issues of lifestyle, diet, work and emotions will necessarily need to be addressed by the patient.

In assessing the key issue(s) for the patient, it is often important to know whether the Liver-Yang Rising has resulted from:

- i. Long-term Liver-Qi stagnation causing heat.
- ii. Long-term Liver-Fire damaging Yin.
- iii. Kidney-Liver Yin-Xu.

In each case, the aetiological factors will be different and so too will be the areas that the patient needs to change for a successful outcome.

Without a significant and appropriate change on the part of the patient, the treatment is unlikely to be more than partially successful. However, since no other therapy, whether orthodox or alternative, benefits from this perspective, acupuncture is certainly the treatment of choice.

#### Case 3

Woman 59 years old, legal secretary, tall, walks with a hunched back.

*Clinical manifestations:* Pain in the neck and top of the shoulders, bad headaches at the occiput and forehead, neck muscles get tight, head gets heavy and 'muzzy', eyes get what she calls 'spotty' and can get sore espe-

cially after a day at work, neck pain gets worse with the stress of work too, but better if she improves her posture by sitting in a better chair. She used to do Yoga but it is now too painful. Physical examination shows tenderness and pain at Fengchi GB-20 and Jianjing GB-21 bilaterally, and at the Huatuoji points C7, T1 and T2 bilaterally. Tongue: normal colour, red tip, thin and slightly greasy coat. Pulse: wiry and slightly slippery. *Differentiation:* The combination of the pain in the neck and top of the shoulders with particular tenderness at Jianjing GB-21 and Fengchi GB-20, the headaches, tight neck muscles, and spotty sore eyes with the pain and the wiry pulse, and the fact that all symptoms are worse with stress at work all point to Liver-Yang Rising. Her muzzy and heavy head, slightly slippery pulse and slightly greasy tongue coating all point to the Liver-Yang carrying some phlegm up to the head.

The problem is long-term so that she now has some resultant stagnation of Qi and blood, indicated by the fact that her posture can make a difference and by the tenderness and pain at the Huatuoji points.

*Aetiology:* Long-term stress at work is probably the major cause, but subsidiary factors may include her height - her hunched back may have been an attempt to reduce her height when younger - and posture at work.

*Treatment plan:* Given how much the pain was getting her down, treatment twice weekly initially would speed up the benefits of acupuncture. We agreed a plan of 20 treatments, twice weekly for the first ten. There was one other issue to address right from the start and that was the matter of her chair at work. This was a priority because continued aggravation to her neck from her posture would undermine the treatment. So with encouragement she negotiated with her boss to have a more comfortable chair.

*Treatment principle:* The treatment principle was to subdue the rising Liver-Yang and move the local stagnation of Qi and blood. The phlegm symptoms were not addressed directly on the assumption - which turned out to be correct - that as the Liver-Yang descended, the phlegm would go too.

*Points:* Her treatment involved using the following points initially: Fengchi GB-20, Jianjing GB-21, Huatuoji points at T1, Hegu L.I.-4 and Taichong LIV-3, all bilaterally. This was a strong reducing treatment which was appropriate for a primarily Shi condition, and brought some immediate relief.

Further treatments involved the additional use of Huatuoji points at C7 and T2 and Waiguan SJ-5 and Sanyinjiao SP-6. She steadily improved throughout the course to the point where she was pain free, even after a day at the office.

*Comment:* One issue we discussed was whether she wanted to continue at work which had obviously been contributing to her condition. She was adamant, however, that she loved her work in spite of the stress and she had no intention of stopping unless absolutely forced to by ill-health. In fact she had specifically come for acupuncture with the expectation of improving her health in order that she could continue at work. I was pleased to help her in this.

From my perspective, encouraging and supporting

her to get a better chair at work was a significant factor and without this I doubt acupuncture would have been so effective.

### Concluding Remarks

Upper back and neck pain often result from stagnation of Qi and blood, from Bi syndrome or from chronic local stagnation of Qi induced by Liver disharmony. Such stagnation often occurs in the vicinity of the spine and shows up by way of particularly tender Huatuoji points. From my experience it is often necessary to needle deeply at these points in order to shift the stagnation. Needle depths of 1 to 1.5 cun are often necessary. More superficial needling will leave the stagnation untouched. Needling at the Huatuoji points should always be directed obliquely towards the spine to avoid risk of pneumothorax, and other points on the upper back such as Jianjing GB-21 and Tianliao SJ-15 should always be needled in a horizontal-oblique direction for the same reason.

Acupuncture is very effective in the treatment of neck and upper back pain. The reasons for this are twofold. First TCM offers an understanding and treatment for this condition which is not limited to seeing it just as a local problem. For example where the patient has an internal pattern of Liver Yang Rising, no matter how much local treatment is given, a satisfactory outcome will remain elusive. Secondly, even if it is only a local problem but involves the presence of an external pathogenic factor such as cold or damp, orthodox treatment will at best be slow in producing results. The effectiveness of acupuncture comes from its broad-based approach whereby diagnosis and treatment include both local and systemic aspects.

### References

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