

Note: arachnoiditis patients often suffer from centralised pain which means that they may experience bizarre sensations, burning sensations and hypersensitivity to light touch and changes in temperature: a warm, non-draughty room is essential.

Do remember that incorrect posture will make matters a great deal worse: some of the therapies mentioned below address this very important issue.

Some of the physical treatments (most likely to be beneficial are starred):

### MANIPULATIVE:

\*Chiropractic: cheir=hands, praktikos= done by: a very old form of therapy invented by the ancient Egyptians.

It reappeared in 1895: Dr. Palmer in Canada. There are now hundreds of practitioners in the UK.

It is best to see a chiropractor who is a member of the British Chiropractic Association (BCA). Chiropractic aims to correct distortion of posture, and restore reasonable function to spinal and pelvic joints as well as removing any irritation to the nerves if possible. It may also be used to treat non-spinal problems and headaches.

It may, in arachnoiditis patients, reduce musculoskeletal symptoms due to altered spinal dynamics

Osteopathy developed in the late 19th. Century (though it probably dates back to ancient Egyptian times), this therapy involves manipulation of the affected area; techniques such as flexing, stretching, massage may be helpful but the more strenuous techniques such as the high-velocity thrust, may be painful and could exacerbate your condition.

Osteopathy is to some extent more useful for acute problems rather than chronic ones. Cranial osteopathy is a spin-off from osteopathy; problems are detected by palpating the skull and the pelvic area. The pulsation of the cerebrospinal fluid is assessed and very gentle manipulation used to correct problem areas.

Cranial sacral therapy (may help with headaches and neck problems in particular)

This involves a very gentle touch treatment, which aims to stimulate subtle but powerful physiological mechanisms in the central nervous system. This is in part related to the flow of cerebrospinal fluid which therapists can assess to determine whether there is an obstruction to normal flow (which commonly occurs in arachnoiditis). It is generally a very relaxing therapy, which helps to generate a sense of wellbeing and calm.

Bowen technique: a dynamic series of gentle and relaxing moves over muscles and tendons. It aims to achieve balance and to help the body heal itself. An Australian man pioneered it and there is a Bowen Therapy Academy of Australia, which has a worldwide network of accredited teachers and therapists.

### STIMULATING:

Low Level Laser Therapy (LLLT): uses application of infrared and red light (at a low intensity) to improve healing and give pain relief; also known as 'cold laser' (other terms include: Low Power Laser Therapy: LPLT; therapeutic laser; soft laser, MID laser).

Basically a 'bioregulating laser', it is known to help in conditions such as nerve pain in shingles and diabetic neuropathy, fibromyalgia (and has even been able to achieve nerve blockade in reflex sympathetic dystrophy, RSD); 'central pain' (a Japanese study); joint pain

and inflammation in rheumatoid arthritis; swelling as in RSD; reduce excess scar tissue (e.g. in keloid skin scarring or after burns).

LLLT has also been helpful in Myofascial Pain Syndrome (MPS) and Carpal Tunnel Syndrome (CTS). There have been more than 2000 research reports published on the use of LLLT in clinical settings. In the dental literature (265 studies) more than 90% of the studies verify the clinical value of laser therapy in treating conditions such as trigeminal neuralgia and other types of facial pain.

It is untested as yet on many arachnoiditis patients, although one patient with arachnoiditis has had considerable relief, which was sustained for several weeks, after treatment with LLLT.

Laser treatment of musculoskeletal disorders can be applied directly to the site of the source of the pain; to trigger points; to nerve roots/ superficial nerve trunks or at acupuncture points (known as laser acupuncture).

Most of the laser treatment carries extremely low risk of adverse effects. There may be slight local heat increase with some lasers, (which is a side effect, not the means for therapeutic effect), but mostly the patient will not feel any noticeable sensation during treatment.

Ultrasound: has been used in physiotherapy departments for some time, to treat acute injuries and reduce joint/tendon/ligament inflammation; it is also known to be helpful in treating chronic leg ulcers: it appears to 'wake up' the wound by taking it from its quiescent chronic state back to an acute inflamed state. However, some wounds do not respond to ultrasound.

Although potentially anything which produces a bio-effect could be dangerous, there is no evidence to date that longwave ultrasound is harmful. However, it is unlikely to be of much benefit to most arachnoiditis patients, except in treating acute joint problems after, say, a fall, or perhaps during a 'flare-up'.

TENS Transcutaneous nerve Stimulation: application of a small electrical stimulus can help to 'distract' the brain and reduce perception of pain. It only works if the current is

strong enough to be felt; up to 80 milliamps. However, it is common for this therapy to only be effective in the short term.

**MENS** Microelectric neurostimulation: microcurrent treatment: seems to increase healing, reduce inflammation and oedema; it has been used for Failed Back Surgery Syndrome, Raynaud's phenomenon (circulatory problems in hands and feet), Carpal Tunnel Syndrome (compression of a nerve in the wrist) and tinnitus. In horses, it has been found to reduce adhesions and scar tissue; it rejuvenates tissues without leaving scars.

Microcurrent electrical therapy (MET) is used for a variety of clinical conditions. Unlike TENS, it is below sensation threshold. A treatment of only 2 minutes' duration can result in a significant residual effect (8 hours up to 3 weeks).

A homecare MET stimulator was introduced in 1982 in the States. MET is useful in pain control, reducing inflammation, oedema and swelling; inducing muscle relaxation.

It can also be effective in combating long-term residual pain due to post-surgical scar tissue, shingles (post-herpetic neuralgia), also, post-stroke pain and spasticity (increased muscle tone).

**PENS** A combination of TENS and acupuncture (using electric stimulation through small needles placed in acupuncture points): has been found to be more effective than TENS in low back pain and has also been helpful in diabetic neuropathy.

**EdiT**: Electrical Differential Therapy: by a company called Nemectron; EdiT400 uses 2 sinusoidal medium-frequency currents of 4000Hz. As with other electrical therapies, it claims to reduce pain, including neuropathic pain, decrease inflammation and oedema and promote healing.

There have not been any trials yet on arachnoiditis patients as far as I am aware.

However, potentially, this might be a useful treatment. The Endosan pain treatment apparently acts as a nerve block. As chemical nerve blocks are now recognised as being ineffective in the long term (indeed, they may exacerbate the problem) this technique might be a helpful alternative.

ETPS: Electro-therapeutic Point Stimulation: works on the principle that chronic muscular pain starts with nerve irritation in the spine, which leads to changes in the muscle that cause trigger and tendon points as well as numbness, tingling and weakness. (Trigger points are sites where even relatively slight stimulation can trigger pain).

A handheld unit stimulates traditional acupuncture points as well as myofascial and nerve root points. It has been used in Colorado, USA very successfully; patients being taught how to self-treat at home using an appropriate treatment protocol.

IMS: Intramuscular stimulation: a technique used in Sweden and Canada for some years: often described as a 'sort of scientific acupuncture': needles are inserted into muscles that are in spasm: the muscle will 'grab' the needle and after a while will 'let go' and carry on relaxing after the needle has been removed.

A pain specialist in Addenbrooke's Hospital in Cambridge, Dr. Rajesh Munglani, has been working alongside an osteopath, Robin Shepherd, using IMF to treat patients with chronic pain from various sources, including phantom limb pain (which has similarities with arachnoiditis nerve pain).

Munglani also uses thermocoagulation, which involves use of an insulated needle used to transmit an electrical current to 'burn out' a problem nerve, thus stopping the transmission of pain. He also inserts needles into the joints of the spine under X-ray control and via Pulsed radiofrequency (PRF), he sends a 2Hz radio signal into nerves to reduce the susceptibility to pain.

Acupuncture: Acupuncture is only of use if the disease process involves altered physiology and is potentially reversible: such as rheumatic conditions. It should be noted that there is a correlation between acupuncture points and trigger points found in fibromyalgia.

However, this therapy does not appear to have been beneficial in many arachnoiditis patients, certainly in terms of anecdotal reports.

In 1975, Wilber studied the effects of sedation of acupuncture loci in low back pain. 1-6 injections of half a ml of local anaesthetic were injected at weekly intervals. 19 patients experienced complete relief, 4 improved but the 2 patients with arachnoiditis showed no improvement at all. This very small study seems to be reflected in recent reports from arachnoiditis patients who have tried a course of acupuncture.

Magnet therapy: this has been somewhat dismissed by doctors; however, case studies in MS and post-polio syndrome (PPS) have found that it eases muscle and joint pain.

In 96% of patients in one study, they experienced a reduction in pain (compared with 19% who received placebo treatment); there were no side-effects.

The actor Anthony Hopkins has used magnet therapy successfully to treat shoulder pain.

A Japanese study looked at the use of a magnetic mattress pad used over 12 months. 375 subjects had 80% positive results, 20% had no results. Of the 80% who had a result, 53% felt an effect within 3 days of commencing treatment and over 70% had effects within 5 days. There were no clinical symptoms to suggest adverse effects.

Biomagnetism is thought to work particularly on the cardiovascular, nervous and endocrine (hormonal) systems. Blood of course contains iron, which will be affected by magnets. An increase in oxygen causes increased electrical conductivity of the blood.

This may help to stabilise blood pressure. Biomagnetism appears to cause an 'electrical net' around glands and secretory ducts, which increases oxygen conduction and thence hormone production. The net regulates optimum secretion and normalises hormonal output.

Magnetic therapy activates cell metabolism; decreases muscle spasm and reduces inflammation. The negative pole of the magnet is thought to interfere with nerve cells' ability to send pain impulses to the brain during the pain response.

Potassium is a positively charged molecule; hence the negative pole of the magnet (the natural flow of current is towards the negative pole) affects its normal movement during the nerve impulse.

In the NASA space programme, astronauts became progressively weak the longer they spent in space: they lost calcium and developed "space osteoporosis". (Loss of bone density due to zero gravity) NASA started to use magnets and found that this problem had gone.

In 1999, the Lancet published the results of a study performed in Germany: repetitive transcranial magnetic stimulation reduced the number and severity of seizures in patients with intractable epilepsy.

North pole magnets create alkalinity, which reduces viral and bacterial growth and also inflammation and oedema.

PEMF: Pulsed Electromagnetic Field Therapy: aims to help the body to heal itself; it has been used routinely for bone growth stimulation after trauma/orthopaedic surgery since 1979. Tiny induced electrical currents are thought to be interpreted by the body as a "repair signal"; PEMF increases local blood flow, accelerates repair process; is thought to reduce scar tissue; affects nerve conduction.

PST: Pulsed Signal Therapy: similar to PEMF, a device trialed in 1990 and now in widespread use in treating arthritis and sports-type injuries.

MASSAGE:

\*Massage: with/without aromatherapy oils or healing techniques such as Reiki; this can help reduce muscle tension and improve general sense of wellbeing. Partners or other family members may benefit from being taught gentle techniques, which can assist the patient, as this gives them an opportunity to feel that they can be of help, whereas so often they feel helpless.

Shiatsu massage has been found to be generally more helpful for chronic back problems than the more widely practised Swedish massage. Shiatsu concentrates on the acupuncture points, so involves a form of acupressure.

\*DIY Shiatsu (also known as Do-In) whilst Shiatsu massage is best performed by a qualified practitioner, it is possible to do one technique at home: if the back is stiff, pounding the inner surfaces of the arches of the feet for 30 seconds may bring some relief.

Myofascial release techniques fascia is connective tissue like a web around nerves, blood vessels and organs. This form of massage helps to reduce myofascial pain, which is a common problem in arachnoiditis, arising as a secondary feature due to the abnormal spinal dynamics.

### POSTURAL:

\*Alexander technique: this therapy is based on correcting postural problems which can especially arise when patients attempt to "protect" a painful part of the spine, thereby setting up an abnormal spinal posture and triggering muscle tension and thus pain in other parts of the spine and adjacent areas, as well as referred pain to the limbs and head. It may well be of assistance as an adjunct to other therapies.

Alexander technique looks at (a) limb and body position and movement (b) kinaesthesia (sense of movements with inputs from receptors in joints and muscle) (c) proprioception (sense of position from the organs of balance in the ear, muscles and joints)

The head should be "forward and up"; not tilted. Performing a "neck release" helps to relax neck and shoulder muscles, allowing the head to move freely. Another aim is to "lengthen the back"; allowing the extensor muscles in the back to

pull the body more upright, against the forward and downward pull of the chest and abdominal muscles.

Patients are taught how to prevent "end-gaining" which is basically trying too hard, resulting in feeling worse and very stiff. Breathing is encouraged to be slow and deep, and the aim is to mentally direct the muscles to gain the desired posture.

There is a subtle distinction between employing the consciousness to give oneself a mental set of directions but not consciously ordering the muscles: movement occurs to a certain extent at an unconscious/reflex level.

Fatigue is due to an increased number of motor cells firing, which gives a greater sense of effort: a physio vibrator held to the relevant tendon activates muscle spindles, in turn activating fibres in the relevant muscle to contract: thus reducing the number of impulses needed from the brain to achieve the necessary muscle contraction: this means that there is less feedback and therefore a reduced sense of effort.

Programmes for fast movements are in the cerebellum and have no feedback whereas slow movements involve the basal ganglia and have feedback.

Kinesiology: assessing muscle function enables the practitioner to ascertain any imbalance and to monitor the energy field of the body. Massage techniques may be used to correct any imbalance.

BATHS ETC:

\*Ice/heat may be very helpful applied to the back to local tender areas. However, a note of caution: if the patient has poor limb circulation or symptoms suggestive of CRPS I (Reflex Sympathetic Dystrophy) or Raynaud's, then use of extremes of temperature can exacerbate the limb problems.

Packets of frozen peas can be ideal, but remember not to apply them direct, but wrapped in a towel; hot-water bottles should not be too hot, and again should be wrapped. Do NOT apply these to an area where there is a lack of temperature sensation or there is general numbness.

Only leave ice packs on for maximum of 20 minutes (there have been cases of frostbite in athletes who have left ice packs on, unwrapped, for too long). Do not apply heat directly to an area of acute severe muscle spasm as it may cause it to 'lock'.

Neutral bath: this is taken in the evening and the temperature should be as close as possible to body temperature: (37 degrees): at least 30 degrees; afterwards, the patient should go straight to bed.

\*Wax baths: for poor circulation and/or joint problems in hands and feet; these are used commonly for patients with conditions such as rheumatoid arthritis and can be very helpful. It is possible to purchase small baths for use at home.

\*Spa bath: (Jacuzzi): this may be useful in reducing pain, aiding muscle relaxation and allowing gentle movement of sore joints; it is also generally very relaxing.

Warm water therapy (Watsu): a Japanese therapy; shiatsu massage (pressure-point massage) in warm water.

### MISCELLANEOUS:

Hyperbaric Oxygen: (HBO) this has been used to treat rheumatoid arthritis, Raynaud's phenomenon secondary to scleroderma (a condition involving scar tissue being laid down in various parts of the body) and Multiple Sclerosis (MS).

HBO is breathing pure oxygen at a pressure similar to 30 feet below the surface of water (2 absolute atmospheres) which provides 1400% more oxygen than breathing at sea level. There

is a unit in the University of Dundee.

Biofeedback: teaches the patient how to control &quot;automatic&quot;(involuntary) responses such as blood pressure. This technique can be of some help with posture, some types of urinary incontinence as well as for excessive sweating. However, it does not have a reputation for being of significant benefit in long-term back problems.