

Low Back Pain - Presentation by Brenda Brown and Catheryn Murphy

General Info. of Lumbar Spine

Low back pain originates because of something wrong with the muscles, ligaments and vertebrae of the lumbar spine region. Most low back pain, as much as 90%, is due to habitual incorrect posturing when standing, sitting, moving, and lifting. stress. Our incorrect patterns are influenced by: those we choose to mimic; self-image; emotions; protection habits from a trauma or injury and/or prolonged bed rest due to an illness or surgery.

Physical Body – Annamavakosha

Skeletal

Vertebrae -

- L5 articulates with the sacrum – S1. This joint is more mobile because of the articulation and tends to be the source for most low back pain. L4 is also more affected.
Weaknesses – when sacrum is convex toward back creating flexion and a flat back. An increased concave lumbar curve. Over extension – lordosis.
Diseases
 - Bone spurs – Boney protrusions as a result of abnormal forces upon spine.
 - Osteoporosis – bones become abnormally porous and easily fractured.
 - Reactive Bone Changes – New bone forms as a result of abnormal stresses.
 - Scoliosis – abnormal side-to-side curvature of the spine.
 - Spondylolisthesis – a fracture of both connections between adjacent vertebrae which creates abnormal movement of spine or forward slippage of the spine.
 - Spondylolysis – a fracture of one of the connections between adjacent vertebrae.

Intervertebral Disk –

- Absorbs water/nutrients – at night disk absorbs water and spine length increases. During day weight of body/gravity compresses on disks and pushes out water/wastes.
Diseases
 - Osteoarthritis - degeneration of the articular cartilages in synovial joints.
 - Rheumatoid arthritis – inflammatory condition of the synovial membranes.
 - Bulging disk – fluid from nucleus bulges or protrudes beyond annulus pushing against nerves.
 - Degenerative Disk Disease – changes in vertebrae and discs. Discs degenerate & become thinner. Adjacent vertebrae develop structural deformities.
 - Herniated Disc – a part of a bulging or degenerated disc breaks off. The fragment can press painfully against nerves or spinal cord.

Sacrum –

- Pelvic torsion – twisting of the pelvis at sacroiliac joint which causes compression of one SI joint and over stretches the other. This is caused by: scoliosis, discrepancies in leg length, tight hamstrings, trauma, crossing the legs, standing on one leg, golf and tennis.

Coccyx

Pelvis –

- Incorrect position of pelvis will control position of lumbar spine leaving it weak & vulnerable to injury.
- Forward position of pelvis causes wedging of the disks & facet joints are loaded. Space for nerve roots is decreased. Backward rotation creates flat back. Arthritis & bone spurs.

Knees -

- misalignment of knees can pull on the pelvis and create swayback

Ankles & Feet –

- misalignment of ankles and feet causes poor weight distribution and has negative repercussions on low back.

Muscles

Psoas –

- If weak or contracted, can cause a flattened or lordotic spine. Main hip flexor and low back stabilizer.

Sacrospinalis –

- If too tight they can contribute to swayback. If too stretched they can contribute to flat back. Overworked, they will spasm.

Abdominals –

- Weak abs create excess lumbar curvature and an inability to stabilize low back and pelvis. Strong or contracted abs can flatten low back.

Quadratus Lumborum –

- Imbalance of muscles, from side to side, will show as an elevation of the 12th rib and curve of the lumbar spine will be away from weak side.

Gluteus Maximus –

- *Weakness of muscle creates excess lumbar curve.*

Piriformis –

- Usually becomes hypertonic, which restricts mobility of hip. Problems w/ this muscle often effects sciatic nerve. Pushing the turn out w/o releasing the problem can often lead to injury.

Hamstrings –

- Too tight can pull pelvis back creating a flat back

Adductors –

- If too tight they will pull the pubic bone down increasing lumbar curve.

Weakness –

- Imbalance of the muscle groups that work together
- Most low back problems result from imbalance of flexors, extensors & rotators of the spine and legs. Reconditioning of muscles must take place in order to prevent repeated or chronic injury.
- Weakness of muscles – poor posture
- Injury to muscles

Joints

- If muscles are imbalanced and create unequal force on the joints, it makes them weak and vulnerable. Parts of bone surfaces bear more weight than they should. This alters the normal regenerative process, keeping the joints from being healthy which can cause pain and arthritis.

Digestive System

- Stress shunts blood away from abdominal area.
- Constipation
- Urinary tract/bladder problems

Circulatory System –

- Build-up of toxins - lactic acid.
- Tight, sore & inflamed muscles prevent/inhibit circulation to back.

Endocrine System –

- Spinal fluid of those w/ chronic back pain has decreased level of endorphins. Exercise increases endorphins.

Nervous System –

- Nerve/energy flow is blocked or limited by impingement of muscles.

Separation –

- Body awareness is lacking. There's an inability to see poor posture or notice the early warning signs that the body is giving.

Energy Body – Pranamayakosha

Breathing:

- Eases pain instantaneously by breathing into tight, congested and painful muscles.
- Helps muscles relax - creating space
- Helps facilitate blood flow which brings nourishment and oxygen to the cells of the muscles involved.
- Increases the removal of toxins from the muscles.
- Engages the parasympathetic response which relaxes the body and quiets the sympathetic nervous system (fight or flight response).
- Can release built up chronic tension.

Energy:

- samana vayu deficiency
- effects 1st chakra due to fight or flight response. Stuck in survival mode.
- 2nd chakra is affected due to repressed emotions and being centered around fear and anxiety.

Psycho-emotional – Manamayakosha –

- Pain comes from the feelings of fear and anxiety
- Posture effects emotions and emotions effect posture
- Fear of re-injury or pain – overprotection
- Depression from inactivity & pain
- Stiffness here indicates “a lack of self-trust or lack of knowledge of purpose.”
Stretching Without Pain, Paul Blakey

Wisdom Body – Vijnanamayakosha –

- “What happens to the mind happens to the body. So, very simply, rigidity of the mind is equal to rigidity of the body.” *Yoga for Back and Joint Disorders*, Dr. P.S. Mamtara
- The inability to let go and change core beliefs
- The belief that you have to be a workhorse or workaholic for acceptance, personal gain and to avoid relationships.
- Inability to connect with feelings and emotions.
- The feeling that you have to maintain relationships that are non-nurturing. When you would really like to tell them to “Get of my back”.
- “I have to support others even if they don’t support me. Back becomes symbol for the cross.”

Bliss Body – Anandamayakosha -

- Lack of faith and trust in a higher power
- Unable to let go
- Fear of happiness
- Releasing back pain – accepting ourselves as blissful and complete
- Not able to connect with the higher self because of fear.

Stress Response - Chronic fight or flight response. The sympathetic nervous system is continuously active. Pain, fear of pain and the underlying issues regarding the back pain perpetuate the stress response. Shallow breathing, low circulation, tension headaches, etc.

Ayurvedic Analysis –

- Vata imbalance
- Imbalance of air and space
- Dry, cold, mobile, erratic
- Colon, pelvis, upper thighs, low back, and sacrum are the areas affected by vata imbalance
- Joints are dry and need moisture.
- Constipation, frequency in urination and cramping during menstruation may be a factor.
- Apana and Samana Vayu are affected.

Vatta: more severe low back pain. Bones can become weak and porous due to loss of moisture.

Pitta: inflammation with low back pain. Nerve pain is more likely to be an issue for pitas. Spasms, sciatica, inflamed ligaments. Gentle exercise, yoga nidra and poultice is recommended.

Kapha – back pain is usually due to an injury or because of inactivity – weakness of the muscles. More strenuous exercise is appropriate unless due to an injury to the vertebrae/disks.

Wellness Principles:

Education:

- Breathing physiology
- Pain – appropriate pain, maximum & minimum edges of pain
- Demonstrate the effect of emotions on posture and the effect of posture on emotions.
- Demonstrate the difference in energy levels and breathing ability in poor & correct posture.
- Proper alignment: sitting, standing
- Lifestyle changes – learning to listen to early warning signs of body, how to lift objects, healthy movement for the back in daily activities.

Breathing:

- Calming Pranayamas
- 3-part breath, alt. nostril breathing, back breathing, breathing w/ sound

Asanas:

- **Strengthen** – muscles that support the back – paraspinals, abdominals, leg muscles and buttocks muscles. Strong legs and hips assist w/ lifting heavy objects.
- **Increase flexibility** – to ROM in the hip flexors, hamstrings and paraspinals.
- Somatics, PNF, chair yoga, restorative, neutral spine.
- Ayurvedic perspective: grounding & flowing exercises.

Guided Imagery:

- Internal massage of muscles, dialoguing with your back pain, drifting thought clouds meditation (works with extreme pain). All by: *Healing Back Pain Naturally*, Art Brownstein, M.D.

Meditation:

- Mantra, on breath, OM, candle gazing

Mantras:

- “My backbone is strong, my back is wide, and I am protected and supported both inside and outside” – Gertrud Hirschi
- See mantra in wellness plan

Mudras:

- Back mudra (see wellness plan)

Diet & Nutrition:

- Vatta Diet – oils, sweets (grains, fruits, dairy, nuts, honey), substantial foods (fish, zucchini, dense foods) and spices with pungent tastes (onions, garlic, tumeric, ginger, cinnamon, sage, thyme, cloves, mint).
- Supplements & Herbs: Vitamins A, C & E, glucosamine/cologen/chondroitin, Triphala, selium, flax seeds, castor oil, asfebida (hing), tefla, gugel.

Exercise: walking outdoors, gentle hikes

Other healing modalities:

- Massage with warm sesame oil, cayenne pepper & tumeric on low back
- Full body massages with warm sesame oil, lavender and sandalwood.
- Massage with olive oil and St. John's Wort oil has warming and relaxing effect
- Poultice – castor oil & tumeric placed on inflamed muscles and bound/cover up. Leave on overnight.
- Aromatherapy baths using relaxing & soothing essential oils.

Wellness Plan: Week One

Education: physiology of breathing - experiential

Body Awareness: Body scan - noticing pain and tension in the body (supported shavasana)

Breathing:

- 3-part breath
- Healing mudra for the back (supported shavasana)
R. Hand: thumb, middle finger and little finger are touching; the index finger and ring finger are extended. L. Hand: place your thumb joint on the nail of the index finger. Can do lying down w/ legs supported by chair.

Asanas: Warm-ups: neck rotations, shoulder rolls, arm circles, wrist rotations, stretch fingers, ankle rotations, stretch toes, curl toes, one knee to chest (repeat other side), knees to chest. Asanas: somatic psoas leg lift, gluteal squeezes, over head stretch, alt. back stretch, single straight leg raises or knees bent lift left leg off floor five inches and raise & lower right leg (repeat other side), cat pose, fire, hydrant, resting cobra, crocodile pose, knees to chest, hands on somatics, yogasage, constructive resting pose, shavasana

Visual Imagery: Internal muscle Massage Imagery
Healing Back Pain Naturally, Art Brownstein, M.D.

Mantra: Love is the greatest healing power I have
I won't live in fear
I won't be afraid of my pain
I will love and honor myself
And embrace my pain as my teacher and friend.