

Non-Medical Management of Low Back Pain (LBP)

Vanuatu's Ministry of Health identified LBP as one of the nation's most common health concerns [10]. While most LBP resolves in 4 to 6 weeks with conservative therapy, one third of patients report pain lasting a year or more; increases the likelihood of long-term disability [14]. The data supports providing early evidence based (EB) interventions to prevent the transition from acute to chronic pain and disability [13,15,16, 17]. Best practices include the use of standardized education [1, 3, 8, 9, 11, 13] and treatment protocols [1, 3, 5, 8] in conjunction with current guidelines [3, 11, 14]. The protocol chosen for this project was *Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline from the American College of Physicians, 2017* [14], adapted to reflect resources available in Vanuatu [10]. The use of culturally relevant, traditional medicine was integrated where appropriate [6, 7, 16]. These guidelines promote the use of non-medication approaches, including osteopathic modalities as first-line therapy and short-term muscle relaxants within 7 days of pain onset, but not longer than 7 days as second line therapy [15,16]. While an instructional whiteboard lecture and video tutorial module accompany this summary of findings within the SolarSPELL library, important highlights follow:

1. Keys to Standard Assessment [2]:

What's Going On? Use **OLDCARTS** to get the history:

- **ONSET**- When did it start and is there a known cause? i.e., injury, illness, etc.
- **LOCATION**- Where does it hurt? Low back only, knees, hips, mid-back, etc.
- **DURATION** – How long has the pain been present?
- **CHARACTER** – Is the pain dull, sharp, aching, tingling, numb-feeling? Does it change?
- **AGGRAVATING/RELIEVING** – Does anything make it better or worse?
- **RADIATING**- Does it travel to other locations?
- **TIMING** – Is it constant, cyclic and predictable, or comes and goes without a pattern?
- **SEVERITY**- Rate the pain level so you can tell 1. if the therapy is working; 2. If they need medical attention. Score 0 – 10 0 = No Pain and 10 = Worst Pain of My Life
Add: Visual Pain Scale

2. **How do they look?** Observe posture and movement as they stand, walk (gait) and sit. Is it normal? Do they lean, or list to one side? Do they have foot drop? [e.g., 1. Walk with an exaggerated rise of the knee to allow their weakened foot to clear the ground and prevent tripping; 2. Unable to hold their toes up in the air while walking on their heels.] Are their shoulders and hips level from left to right? Looking from the side: Is their head aligned over their shoulders, shoulders over their hips, hips over knees, knees over their ankles? Are normal back curvatures present? e.g. a slight outward curve at the level of their shoulder blades and an inward curve level with their waist [2].
3. **Perform Range of Motion (ROM) examination:** Spine Extension- "*Bend backward as far as possible*". Normal $\geq 25^\circ$; Flexion- "*Bend forward and try to touch your toes*". Normal $\geq 60^\circ$; Side Bend- "*Bend to the side at your waist*". Normal $\geq 25^\circ$ with hip drop; Rotation- Stabilize their hips by holding them steady with your hands – "*Rotate your body side to side*". Note limitations, weakness, muscle wasting or obvious deformities. Do you hear a snap, crackle or pop sounds? Can you feel crunching or squishiness in their joints as you move them through the range of motion [2]?
4. **Rule out RED FLAG findings which require immediate medical care:** Recent trauma, suspected fracture, age > 70 **WITH NO** trauma or age > 50 **WITH trauma**, weakness, falls, trouble walking, foot drop (limp foot), bilateral sciatic pain (shooting pain down the legs), weakness on one side of the body, unable to move one side of the body, unable to walk, IV drug abuse, history of cancer, saddle anesthesia (no feeling in buttocks, inner thighs, anus and scrotum or vulva), loss of bowel control, cannot hold their urine or cannot urinate, night sweats, fever, unexplained weight loss greater than 10 pounds with associated abdominal pain, headache, pain that disturbs sleep, or neurological symptoms which are worsening over time [5].

Osteopathic Therapy: Pain does not occur in the body. It occurs in the brain which signals the body regarding danger and need for self-preservation. Counterstrain theory states when a muscle is strained by a sudden unexpected force, the brain triggers automatic antagonism to stabilize a threatened joint resulting in contraction/shortening of the muscle at rest. Brain activity may make that contraction a new normal resulting in chronic pain and decreased function. Methods of releasing the tension and reprogramming the brain's perceptions and responses include muscle energy, positional release, and myofascial release [12].

NEVER USE ANY OSTEOPATHIC MANIPULATION TECHNIQUES WITH EVIDENCE OF ACUTE INJURY, SUSPECTED FRACTURE, NEUROLOGICAL SYMPTOMS, HIP DISLOCATION, SEVERE HIP ARTHRITIS, PATIENT GUARDING OR APPREHENSION

Treatment Protocols

| ACUTE: DURATION LESS THAN 3 MONTHS | CHRONIC: DURATION LONGER THAN 3 MONTHS |
|--|---|
| <p>1st Line:</p> <p>Superficial Heat - 15 minutes on/off</p> <ul style="list-style-type: none"> • Protect skin from direct contact with heat <p>Physical Activity as Tolerated- DISCOURAGE BED REST [5]</p> <p>Osteopathic Manipulation [2, 4, 12, 14]</p> <p>Never with Acute Injury</p> <p style="color: red;">* See Instructional Video for Specific Techniques</p> <ul style="list-style-type: none"> • Muscle Energy <ul style="list-style-type: none"> ○ Lumbar Lateral ○ Lumbar Lateral Recumbent • Positional Release <ul style="list-style-type: none"> ○ Lumbar Soft-Tissue Seated Facilitated Facet Release ○ Facilitated Lumbar Flexion Release ○ Facilitated Lumbar Extension Release • Massage <ul style="list-style-type: none"> ○ Self-Administered Foam Roller • Myofascial Counterstain <p style="color: red;">Never with acute strain, sprain or fracture</p> <ul style="list-style-type: none"> ○ L5 ○ T-10 to L5 Posterior <p>2nd Line</p> <p>Skeletal Muscle Relaxants [14]</p> <p>Moderate/Short-term use of traditionally prepared NOBLE Kava [6, 7, 16]</p> <p style="color: red;">NEVER combine Kava with Pregnancy, breastfeeding, alcohol, prescribed, over-the counter, herbal medications</p> | <p>Exercise – Physical Activity [14,15]</p> <p>Osteopathic Manipulation [2, 4, 12, 14]</p> <p style="color: red;">*See Instructional Video for Specific Techniques</p> <ul style="list-style-type: none"> • Muscle Energy <ul style="list-style-type: none"> ○ Lumbar Lateral ○ Lumbar Lateral recumbent • Positional Release <ul style="list-style-type: none"> ○ Lumbar Soft-Tissue Seated Facilitated Facet Release ○ Facilitated Lumbar Flexion Release ○ Facilitated Lumbar Extension Release • Myofascial Counterstain <ul style="list-style-type: none"> ○ L5 ○ T-10 to L5 Posterior • Massage <ul style="list-style-type: none"> ○ Self-Administered Foam Roller <p>Motor Control Exercises [2, 14, 15]</p> <ul style="list-style-type: none"> • Postural Strengthening Exercises / Core Strength Exercises • Pelvic Tilt • Supine Leg Lift • Prone Leg Lift |

Integrating Traditional Kava Beverage: Used throughout the South Pacific for more than 1000 years to induce entheogenic (spiritual) experiences, to promote male bonding, and as a social lubricant. Kava's Kavalactone's produce changes in the brain which treat, anxiety, pain, muscle spasms, and insomnia while allowing retention of mental alertness. Moderate consumption initiated following injury and continuing for less than 7 days may be considered for acute LBP.

The Evidence: According to a joint report by the Food and Agriculture Organization of the United Nations and the World Health Organization (WHO) (2016, p. 24-26), concluded than in Vanuatu:

- 27% of males and 17% of females consume traditional kava beverage daily.
- There are on average 250 mg of kavalactones per shell.
- The average daily consumption is 4.1 shells (1000 mg) for men and 3 shells (750 mg) for women.

A 20-year clinical surveillance of South Pacific aboriginals found zero incidence of hepatic failure related to use of **traditionally prepared Kava beverage**.

Preparations should include only kava roots and rhizomes stored in dry facilities after harvest to prevent inclusion of mold and other potentially toxic elements.

HIGHER RISK OF TOXCITIY:

- **CAUCASIAN [7% lack the ability to process kava, leading to build up and toxicity]**
- **HEAVY CONSUMPTION [\geq 3500 mg /day]**
- **NOBLE LEAVES or NOBLE STEMS or TWO-DAY KAVA or WICHMANII KAVA**
- **Kava Bars may not prepare traditionally prepared Kava Beverage**
- **USE OF ALCOHOL OR ANY TYPE OF MEDICATION with KAVA**

Signs & Symptoms of Toxicity:

- Skin and eyes that appear yellowish (jaundice)
- Abdominal pain and swelling
- Swelling in the legs and ankles
- Itchy skin, common, but not limited to palms of hands and soles of feet
- Dark urine color
- Pale stool color, or bloody or tar-colored stool
- Chronic fatigue
- Nausea or vomiting
- Loss of appetite
- Tendency to bruise easily

WARNINGS: KAVA INTERACTS WITH 90% OF ALL MEDICATIONS. SIDE EFFECTS OF MEDICATION REACTIONS, INCLUDING CIRRHOSIS, AND LIVER FAILURE WHICH **MAY NOT BE REVERSIBLE. NEVER COMBINE KAVA WITH BREASTFEEDING, PREGNANCY, ALCOHOL, OR ANY MEDICATION INCLUDING PRESCRIPTION, OVER THE COUNTER, OR HERBAL/NATURAL. KAVE IS ASSOCIATED WITH **INCREASED VIRAL RESISTANCE AND MAY RESULT IN HIV TREATMENT FAILURE** [6, 7, 16].**

References

- [1] Ashrafioun, L., Gamble, S., Herrmann, M., & Baciewicz, G. (2016). Evaluation of knowledge and confidence following opioid overdose prevention training: A comparison of types of training participants and naloxone administration. *Substance Abuse*, 37(1), 76-81.
doi:10.1080/08897077.2015.1110550
- [2] Beatty, D., Li, T.S., Steele, K.M., Comeaux, Z. J., Garlitz, J.M., Kribs, J. W., Lemley, W. W. (2011). *The Pocket Manual of OMT: Osteopathic Manipulative Treatment for Physicians (2nd Ed.)*. Philadelphia, PA: Lippincott, Williams, & Wilkins.
- [3] Canada, R., Di Ricco, D., & Day, S. (2014). A better approach to opioid prescribing in primary care. *The Journal of Family Practice*, 63(6), e1- e8
- [4] Cheatham, S. W., Kolber, M. J., Cain, M., & Lee, M. (2015). The effects of self-myofascial release using a foam roller or roller massager on joint range of motion, muscle recovery, and performance: A systematic review. *International Journal of Sports Physical Therapy*, 10(6), 827–838. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4637917/>
- [5] Della-Giustina, D., 2013). Acute low back pain: Recognizing the “red flags” in the workup [Online]. *Consultant*, 3(6). Retrieved from <http://www.consultant360.com/article/acute-low-back-pain-recognizing-%E2%80%9Cred-flags%E2%80%9D-workup>
- [6] Fasinu. P. S., Gurley, B. J., Walker. L. A. (2016). Clinically relevant pharmacokinetic herb-drug Interactions in antiretroviral therapy. *Current Drug Metabolism*, 17(1), 52 – 64. doi 10.2174/1389200216666151103115053
- [7] Food and Agriculture Organization of the United Nations & World Health Organization (2016). *Kava: A review of the safety of traditional & recreational beverage*. Retrieved [PDF] from <http://www.fao.org/3/a-i5770e.pdf>
- [8] Franklin, G., Fulton-Kehoe, D., Turner, J., Sullivan M., & Wickizer, T. (2013). Changes in

- opioid prescribing for chronic pain in Washington state. *American Board of Family Medicine*, 26(1), 4394 – 4400. doi:10.3122/jabfm.2013.04.120274J
- [9] Gordon, B., Loeser J., Tauben, D., Rue, T., Stogicza, A., & Doorenbos, A. (2014). Development of the KnownPain-12 pain management knowledge survey. *Clinical Journal of Pain*, 30(6), 521 – 527. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3989468/>
- [10] Hosman, L. & Blau, E. (personal communication, July 2017).
- [11] Hurley, & Bearne. (2008). Non-exercise physical therapies for musculoskeletal conditions. *Best Practice & Research Clinical Rheumatology*, 22(3), 419-433. doi: 10.1016/j.berh.2008.01.001
- [12] Jones, L., Kusenose, R., & Goering, E. (1995). *Jones Strain-Counterstrain*. Boise, ID: Jones Strain-Counterstrain Inc.
- [13] Ospina, M., Taenzer, P., Rashiq, S., MacDermid, J., Carr, E., Chojecki, D., ... Henry, J. (2013). A systematic review of the effectiveness of knowledge translation interventions for chronic non-cancer pain management. *Pain Research & Management: The Journal of the Canadian Pain Society*, 18(6), e129–e141.
- [14] Qaseem, A., Wilt, T.J., McLean, R.M., Forciea, M.A., (2017). Noninvasive treatments for acute, subacute, and chronic low back pain: A clinical practice guideline from the American College of Physicians. *Annals of Internal Medicine*, 166(7), 514–530. doi: 10.7326/M16-2367
- [15] Reid, M., Ong, A., & Henderson, C. (2016). Why we need nonpharmacologic approaches to manage chronic low back pain in older adults. *Journal of the American Medical Association Internal Medicine*, 176(3), 338-339. doi: 10.1001/jamainternmed.2015.8348
- [16] Richardson, W. N., & Henderson, L. (2007). The safety of kava – a regulatory perspective. *British Journal of Clinical Pharmacology*, 64(4), 418–420. <http://doi.org/10.1111/j.1365-2125.2007.02933.x>
- [17] Draper, D., O. & Speicher, T. (2006). The top 10 positional-release therapy techniques to break the chain of pain, part 1 [ONLINE]. *Physical Therapy and Human Movement Science Faculty*

Publications, 14. Retrieved from http://digitalcommons.sacredheart.edu/pthms_fac/1