

Ankle Sprain and Homoeopathy: A Review of Individualized Therapeutic Approaches

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Abstract— A lateral ankle sprain (LAS) is a common musculoskeletal injury, frequently seen in both the general population and among sports participants. Approximately 40% of all traumatic ankle injuries occur during sporting activities, with an incidence of LAS per 1000 exposures reported for indoor sports. Despite its high prevalence, only about 50% of individuals who sustain a LAS seek medical care. A substantial proportion of these individuals go on to develop chronic ankle instability (CAI), characterized by persistent pain, swelling, and a sensation of giving way, along with recurrent sprains for at least 12 months after the initial injury. This can result in prolonged absence from work and sports. The combination of treatment costs and sick leave creates a considerable socioeconomic burden. Long-term complications such as joint degeneration and osteochondral lesions have also been reported. Therefore, proper diagnosis, treatment, and prevention of recurrent injuries could help prevent chronic symptoms and significantly reduce the associated socioeconomic burden. Although the number of published studies on this topic is growing, treatment approaches still vary widely across the world. This variation highlighted the need for developing an international evidence-based clinical guideline.

Index Terms—Homoeopathy, Ankle sprain, Recurrent sprains, chronic ankle instability (CAI)

I. INTRODUCTION

- These are common injury in sports. If improperly treated, it may result in chronic laxity, pain, or delayed recovery. ^[1]
- Ankle sprains refer to ligament injuries in the ankle. Ankle joint is the commonest site for a

ligament injury in the body and ankle sprains are the commonest sports injuries. Stretching of ligaments beyond normal range results in sprain. More than three-quarter cases of ankle sprain involve lateral ligament complex (inversion ankle sprain). Anterior talofibular ligament (ATFL) is the weakest of lateral ligament complex and most commonly injured ligament in ankle sprain (ATFL is the most commonly injured ligament in the body). Calcaneofibular ligament (CFL) is the second most commonly injured ligament in ankle sprains. ^[2]

- Chronic ankle instability (CAI) may be defined as persistent complaints of pain, swelling and/or giving way in combination with recurrent sprains for at least 12 months after the initial ankle sprain, which in turn may lead to (long-term) absenteeism from work and sports. Treatment costs in combination with sick leave led to a high socioeconomic burden. ^[2]

II. TYPE OF GRADE

- Grade I injury- Ligaments are stretched only
- Grade II injury- Partial tear of ligaments
- Grade III injury- Ligaments are completely torn ⁽³⁾

Incidence-

Ankle sprains are particularly common in sports, accounting for approximately 15-20% of all sports-related injuries. The highest incidence rates are observed in sports that involve running, jumping, and rapid changes in direction, such as basketball, soccer,

and volleyball. A meta-analysis of sports injuries found that up to 45% of basketball players. ⁽⁴⁾

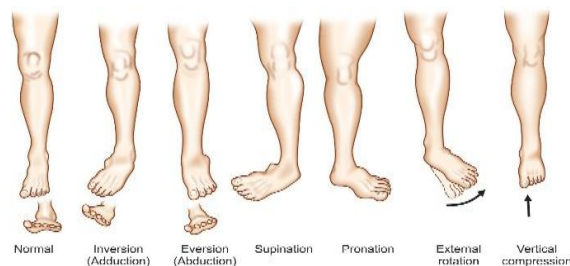
- Ligaments are made of fibrous tissues, which are arranged longitudinally. They are tough and elastic. Their vascularity is poor and heals always by scar tissue due to lack of special cells.
- Ligaments serve the following functions:
 - Support: By reinforcing the capsule, they provide support to the joint.
 - Stability: By holding the bony ends together, it provides stability.
 - Protection: The strength of the ligaments offers protection to the joints along with the muscles. ^[5]

Problems Of Healing –

- Poor vascularity delays the healing
- Repair is by scar tissue
- Inadequate period of immobilization results in healing with tissue that is more fibrous. This will result in excessive laxity making the joint unstable
- Intermittent stretching strengthens the ligament while continuous stretch leads to adhesions due to periosteal irritation. ^[5]

Describe different forces the ankle may be subjected to: - ^[6]

- A) INVERSION (adduction): inward twisting of the ankle.
- B) EVERSION (abduction): outward twisting of ankle.
- C) SUPINATION: inversion plus adduction of the foot so that the sole faces medially and in plantarflexion
- D) PRONATION: eversion and abduction of the foot so that the sole faces laterally and in dorsiflexion
- E) ROTATION (external or internal): a rotatory movement of the foot so that the talus is subjected to a rotatory force along its vertical axis.
- F) VERTICAL COMPRESSION: a force along the long axis of the tibia.



Forces at the ankle ^[6]

III. MECHANISM OF INJURY

Anterior talofibular ligament is the primary restraint against plantar flexion and internal rotation of foot. So most common mechanism of injury in lateral ankle sprains occurs with forced plantar flexion and inversion of the ankle joint (inversion ankle sprain). As in stepping in a hole or jumping on uneven surface. Medial ankle sprains are less common and caused when foot is turned outwards (eversion ankle sprain, i.e. deltoid ligament injury). ⁽⁷⁾

IV. CLINICAL PRESENTATION

- Patients with ankle sprain present with pain and swelling around the ankle joint following a twisting injury of foot.
- Swelling, bruises and tenderness may be present on the lateral aspect and front of ankle.
- Walking may be difficult.
- Abnormal motion and instability may be elicited in completely torn ligament injury. ⁽⁷⁾

V. EXAMINATION

Anterior Drawer test of ankle joint – The examiner stabilizes the anterior distal leg with one hand and grasps the patient's calcaneus and rear foot with other hand. Then examiner pushes the rear foot anteriorly with foot in slight planter flexion. A positive test is indicated by forward talus translation (specific for ATFL). Inversion stress tests are provocative tests for testing integrity of the lateral ligaments that are commonly injured. The injury can also be graded by Lauge Hansen grading method

VI. DIAGNOSIS

Diagnosis is made on clinical grounds. X-rays may be required if bony tenderness is present. MRI is the best diagnostic modality for ligament injuries. ^[11]

VII. TREATMENT

- Treatment of an acute ligament sprain is RICE therapy (rest, ice, compression and elevation). This helps in reducing swelling and pain and fastens the healing of ligaments. Weight bearing

may be allowed as tolerated. Braces which limit inversion may be helpful. More severe injuries may best be benefitted by immobilization in a below knee cast.

- Surgery is reserved for the patients who do not respond to a fair trial of conservative treatment and for persistent instability after ankle injury and involves reconstruction of the torn restraint

VIII. INDIVIDUALIZED HOMOEOPATHIC MEDICINE

Those so-called local maladies which have been produced a short time previously, solely by an external lesion, still appear at first sight to deserve the name of local disease. But then the lesion must be very trivial, and in that case, it would be of no great moment. For in the case of injuries accruing to the body from without, if they be at all severe, the whole living organism sympathizes; there occur fever, etc. The treatment of such diseases is relegated to surgery; but this is right only in so far as the affected parts require mechanical aid, whereby the external obstacles to the cure, which can only be expected to take place by the agency of the vital force, may be removed by mechanical means, e.g., by the reduction of dislocations, by needles and bandages to bring together the lips of wounds, by mechanical pressure to still the flow of blood from open arteries, by the extraction of foreign bodies that have penetrated into the living parts, by making an opening into a cavity of the body in order to remove an irritating substance or to procure the evacuation of effusions or collections of fluids, by bringing into apposition the broken extremities of a fractured bone and retaining them in exact contact by an appropriate bandage, etc. But when in such injuries the whole living organism requires, as it always does, active dynamic aid to put it in a position to accomplish the work of healing, e.g. when the violent fever resulting from extensive contusions, lacerated muscles, tendons and blood-vessels requires to be removed by medicine given internally, or when the external pain of scalded or burnt parts needs to be homoeopathically subdued, then the services of the dynamic physician and his helpful homoeopathy come into requisition.⁽⁸⁾

Homoeopathic management:

Arnica Montana: This is the remedy of first importance in all kinds of injuries, traumatic or bruised. Arnica cures hæmorrhages of many kinds. A muscular tonic. Worse, least touch; motion; rest; wine; damp cold. Better, lying down, or with head low.

Rhus Toxicodendron: ailments from strains, over lifting. Hot, painful swelling of joints. Pains tearing in tendons, ligaments, and fasciæ. Better motion. Soreness of condyles of bones. The cold fresh air is not tolerated; it makes the skin painful. Numbness and formication, after overwork and exposure. Tenderness about knee-joint.

RUTA: complaints from straining flexor tendons especially. Tendency to the formation of deposits in the periosteum, tendons, and joints, especially wrist. Overstrain of ocular muscles. Sprains. Lameness after sprains. Injured "bruised" bones. Fractures & Dislocations. Hamstrings feel shortened. Tendons sore. Aching pain in tendo-achilles. Tennis Elbow.

Symphytum: It is considered to be orthopaedic specific medicine. It is of great use in wounds penetrating to perineum and bones, and in non-union of fractures; It facilitates union of fractured bone by favouring production of Callus. Pain in the eye after a blow of an obtuse body. For traumatic injuries of the eyes no remedy equals this.

Hypericum: A great remedy for injuries to nerves, especially of fingers, toes and nails. Crushed fingers, especially tips. Excessive painfulness is a guiding symptom to its use. Prevents lockjaw. Puncture wounds. Relieves pain after operations. Quite supersedes the use of morphia after operations (helmuth). Spasms after every injury.

Ledum Palustre: Easy spraining of ankle. For puncture wounds, produced by sharp-pointed instruments or bites particularly if the wounded parts are cold.

Bovista: Swelling of the foot after sprains.

Calcarea Phosphoricum: It is especially indicated in bone disease non-union of fractured bones. It has a special affinity where bones form sutures or symphyses, and all its symptoms are worse from any change of weather. It help to unite bones quickly.

Ranunculus Bulbosus: Various kinds of pains and soreness, as if bruised in sternum, ribs, intercostal spaces. Muscular pain along the lower margin of the shoulder-blade; burning in small spots from sedentary

employment. Worse, open air, motion, contact, atmospheric changes, wet, stormy weather, evening. Natrum Sulphuricum: It is specific medicine for injuries to the head. Ill-effects of falls and injuries to the head, and mental troubles arising there from. changing posture. ⁽⁹⁾

Ankle Sprain Protocol – ⁽¹⁰⁾

- P (Protection): Further injury can be prevented by taping or bracing your ankle.
- R (Rest): Rest from all activities that cause pain or limping. If necessary, use crutches until you can walk without pain or limping.
- I (Ice): Place an ice bag on the ankle for 15 to 20 minutes, or use an ice bucket 3 to 5 times a day for the first 24 to 72 hours.
- C (Compression): Wrap an elastic bandage from the toes to mid-calf, using even pressure. Wear this until swelling decreases. Loosen the wrap if your toes start to turn blue or feel cold.
- E (Elevation): Elevate the ankle above heart level until swelling subsides.

IX. CONCLUSION

Ankle sprain is a common musculoskeletal injury that requires proper diagnosis, timely treatment, and adequate rehabilitation to prevent recurrent sprains and chronic ankle instability. Homoeopathic remedies such as Arnica montana, Rhus toxicodendron, and Ruta graveolens are traditionally used for complaints associated with sprains and traumatic injuries. However, scientific evidence supporting their effectiveness in accelerating ligament healing or preventing recurrence remains insufficient. Therefore, further well-designed clinical studies are needed to evaluate their therapeutic role. Evidence-based care, including appropriate support and rehabilitation, should remain the cornerstone of ankle sprain management.

REFERENCES

- [1] J. Ebnezar and R. John, *Textbook of Orthopedics*, 5th ed. New Delhi, India: Jaypee Brothers Medical Publishers, 2017.
- [2] M. Mohindra and J. K. Jain, *Fundamentals of Orthopedics*, 1st ed. New Delhi, India: Jaypee

Brothers Medical Publishers, 2016, pp. 139–140.

- [3] S. Al Adal, F. Pourkazemi, M. Mackey, and C. E. Hiller, “The prevalence of pain in people with chronic ankle instability: A systematic review,” *J. Athletic Training*, vol. 54, no. 6, pp. 662–670, 2019, doi: 10.4085/1062-6050-531-17.
- [4] Kanojia, D. Singh, and J. Meher, “Musculoskeletal sports injuries and its homoeopathic approach,” *Int. J. Homoeopathic Sci.*, vol. 8, no. 2, pp. 263–270, 2024, doi: 10.33545/26164485.2024.v8.i2d.1145.
- [5] Walker, *The Anatomy of Sports Injuries: Your Illustrated Guide to Prevention, Diagnosis and Treatment*. Lotus Publishing and North Atlantic Books, 2013.
- [6] J. Maheshwari and V. A. Mhaskar, *Essential Orthopaedics: Including Clinical Methods*, 5th ed. New Delhi, India: Jaypee Brothers Medical Publishers, 2015, pp. 159–160.
- [7] S. Kayne, “Homoeopathy in sports medicine,” *British Homeopathic Journal*, vol. 81, no. 3, pp. 142–147, 1992.
- [8] *Ankle Sprain Protocol*, 2021. [Online]. Available: <https://www.sportsmedreview.com/wp-content/uploads/2021/05/Ankle-sprain-rehab-protocol.pdf>