

Symptomatic acquired Hallux Valgus

Desk Guide for non-surgeons



Advice and management should be discussed with evidence, patient's need in mind and offering your experience.

Hallux valgus has three main components. It deviates (abducts), it rotates (valgus) and joint damage leads to stiffness (hallux valgo-rigidus or HAV) depending upon the extent of deterioration. Avoiding complete loss of cartilage depth and improving the synovial lubrication mechanism are required than simply fixing the deformity in the first place.

Your objectives & patient discussion

- Aim to preserve tissue and joint function
- Reduce inflammation, spasm and reduce scar tissue
- Explain how a typical joint should work
- The effect of hallux valgus and the altered mechanics affect chemical changes in bone & cartilage
- Erosions (chondral lesions), when the deepest level cause joint pain and lubrication methods fail
- Concepts behind treatment and avoidance of surgery
- Discuss and agree on solutions together
- Frequency of HAV is greater in females but the rigid form arises in men more commonly
- Rare at birth – congenital
- Can arise in the teenage years
- High regression rate if operated too soon

Cause

- Acquired by a genetic trait
- Injury and impact damage
- Footwear does not cause HAV
- Footwear exacerbates the condition
- Symptoms arise with extensive subchondral damage
- Secondary features are often more troublesome

Examination for symptoms

1. Full movement should occur without a blocking sensation. View statically & dynamic.
2. Distract (open) the joint. Pull the toe while supporting the metatarsal.
3. Squeeze and compress across the forefoot.

4. Palpate for any joint irregularities e.g spurs/osteophytes prominence around the joint.
5. Press around the joint to elicit synovitis.
6. Soft tissue cysts e.g ganglion or bursa
7. Ensure dorso-medial branch of the superficial dorsal nerve is not trapped – neuritic bunion due to footwear.
8. Identify secondary features of HAV and check for other conditions e.g metatarsalgia
9. Subjective evaluation – use visual analogue scale 0-10 for pain assessment
10. Compress medial sesamoid and extend toe. Listen for sounds & symptoms

Key questions

- Do these happen all of the time?
- Are you awoken at night?
- When does the pain arise?
- Do you remove your shoes?
- Do you take pain medication for your discomfort?
- How far can you walk?
- Does the toe interfere with your life or stop you from working?
- Does HAV run in the family?

Do your patient's symptoms & signs fit this box? Seek out *frequency*, not just the *presence* of symptoms. Use the VAS scale 0-10 for discomfort.

Pain on movement	Radiating pain
Pain at rest	Paraesthesiae
Joint pain acute (see <i>first aid</i>)	Pain across the whole foot
Skin pain	Aching
Throbbing eases after shoes have been removed	Becomes red and swells

What is deterioration?

- When the joint is swollen and the lining of the joint is inflamed
- Stiffness affects the range of motion.
- Cartilage may be damaged at different levels
- Once the cartilage is split below the chondral tidemark, bleeding enters the joint
- Scar tissue forms from blood clots (fibrin) and inhibits movement
- Attachments of scar tissue can tear the surface of the hyaline cartilage

Tests (provides options)

1. **Plain x-ray** minimum of two views + axial view for sesamoid involvement.
2. Consider joint space, periarticular changes, subchondral cysts and angular changes.
3. **MRI** is used to enhance joint information and assess soft tissue. 3D imaging.

4. **Ultrasound scan** is helpful for soft tissue involvement e.g ganglion.
5. **CT scan** offers additional 3D quality but involves a higher dose of radiation.
6. **Haematology** for suspected forms of arthritis
7. **Cytology** aspiration of synovial fluid

- Direct effect on the quality of life
- Joint movement reduces pain during activity
- Evidence from imaging supports clinical findings

First aid

- It is unlikely that patients present to podiatrists unless an injury is seen. Turf toe is common in some sporting activities. Activate RICE and pain killers as appropriate
- Advocate plain x-ray for symptoms
- Rehabilitation: exercises, stiff shoes, short leg replaceable cast and graduated return to activity

Overview of techniques

- **Osteotomy** to align and preserve joints. Often loses some movement
- **Replacement** (arthroplasty) of joint or use of subchondral defect implant offers some but not all movement
- **Fusion of joint.** Screw and plate fixation. Expect no movement. The toe will be elevated upwards for shoe/heel fit

Conservative

- Alter footwear design to reduce pressure
- Orthoses do not correct HAV but assist with metatarsalgia and reduce first MTPJ motion
- Advocate programmes around the patient's needs and medical fitness
- Manipulation – massage
- Taping for the toe
- Splints (day/night) explain does not correct HAV but symptoms can be alleviated
- Dietary supplements for joints

Additional information

- Mobilisation varies from 14 days to 6 weeks depending upon the type of surgery.
- Advise local v general anaesthetic options.
- Day case with discharge home is usual

Injection

- **Rationale:** reverse synovial inflammation, reduce scar tissue, influence macrophage activity, aid pain
- **For spasms:** local anaesthetic alone will rule out also induced spasms from flexor and abductor muscles.
- **For synovitis:** First-line corticosteroid of choice. Avoid repeat injections. Benefit decreases by 50% and a third by 75%. Deposits of steroids can actively increase problems and damage cartilage.
- **Secondary injections:** hyaluronic acid (hyaluronan). Evidence varies but 1-3 injections over a year increase joint space and boost lubrication, temporarily protecting surfaces

Risks of surgery

- Surgery may not work
- A stiff toe can be expected to be proportional to damage (osteotomy)
- Joint replacements may need changing due to the life span of material
- Some activities and footwear are directly affected, especially with permanent fusion. e.g. heel height
- Patients should be informed screws, plates often are removed as part of 'job done.'
- Younger patients recover and have better outcomes than older patients

Additionally -

- Your patient may need to use orthoses after surgery.
- Footwear will almost certainly need to be replaced.
- The surgeon will discuss additional surgical risks.

Further evidence and references can be found on ConsultingFootPain.co.uk under "bunion and hallux valgus series".

Surgical justification

The type of surgery depends upon the findings at clinic through imaging, general medical and social health, and intraoperative findings. Except for older, less stable patients, exostectomies alone are not advised. There is no one surgical technique that overrides another. All have benefits but the foot surgeon makes the final decision. Refer to a foot surgeon (FRCPodS or FRCS) when -

- Joint pain deteriorates
- Skin tissue is damaged or repeat infections
- Conservative care fails

