



Modernising Patient Pathways Programme:

# The Suspected Scaphoid Fracture (V1)

March 2023





Wrist injuries with radial sided pain are common. Some scaphoid fractures are initially “occult” and are not detectable on radiographs at the time of injury. It is estimated that such fractures are actually present in 5-15% of cases. Surprisingly, the natural history of these fractures is not well described in the literature. Some scaphoid fractures can fail to unite, leading to painful non-union and, in some cases, arthritis. Factors associated with poorer outcomes include displacement, angulation and fractures at the proximal end of the bone. All these factors are likely to be detectable on initial radiographs.

Traditional management pathways have erred on the side of caution and recommended cast immobilisation and repeat assessment. This can lead to a 5-10 times rate of over-diagnosis and treatment which is associated with over-medicalisation, stiffness, and functional and occupational limitation. More recent research has suggested universal or targeted cross-sectional imaging to improve diagnosis and limit immobilisation to patients with a true fracture. While appealing, rapid and universal access to such imaging is proven to not be deliverable within most hospitals and may lead to diversion of resource away from other high priority areas. It is also likely to lead to over-treatment of injuries that would never have resulted in any long-term problems.

### Medico-legal Context

Clinicians are rightly concerned when a new protocol represents a departure from current accepted practice. It is important that a new pathway is backed by a reasonable clinical consensus and that it represents a logical process, supported by evidence. This requires a “Realistic Medicine” approach to ensure that the pathway represents an acceptable balance of benefit versus risk, making best use of diagnostic and treatment resource. Sometimes such new pathways will differ from existing guidelines.

This approach was observed with the introduction of the “Virtual Fracture Clinic” system. This represented a change to normal practice and concerns were expressed about its safety, particularly regarding missing subtle fractures. It initially did not conform to the recommendations for Fracture Clinics contained in a BOAST guideline. Based on feedback the BOAST was amended to support innovation in fracture pathways, as long as it was logical and backed up by a programme of audit. An article was published by the BOA detailing the medicolegal aspects of introducing a new pathway.

In the case of the occult scaphoid fracture, there is ambiguity about the true incidence of long term complications and there is a strong potential that existing pathways have emphasised over-treatment based on concern that has arisen from a different initial entity (that of a fracture not identified early due to late presentation or lack of initial x-ray). In this context, it is the opinion of this expert group that this pathway is reasonable and acceptable. It has been also successfully been introduced in two Scottish Centres (NHS Fife & NHS Forth Valley) and published following peer review.

### Clinical Management

Where there is radial sided pain in the wrist following an injury a series of four “scaphoid” radiographs should be obtained at the time of presentation. There should be a reasonable mechanism of injury. They most commonly occur in male patients following higher-energy and/or sporting injuries. Usually, the wrist is loaded in a position of extension such as fall onto outstretched hand or saving a shot at goal in football. They are rare in the children and the elderly.

If no fracture is detectable on initial radiographs a removable wrist splint should be provided along with verbal and written information (Appendix 2).

The patient should be advised that:

- If the injury is improving, then they should start to regularly remove the splint and mobilise as able
- If pain continues at 14 days, they should re-contact the Orthopaedic Department for further review

Each department should have an identified process and telephone number available for patient contact. In most cases this will be via the Virtual Fracture Clinic system. Where time off work is required and is >7 days, procedures should be in place to provide “Fit Notes” from the Virtual Fracture Clinic rather than require the patient to make separate contact with their general practitioner.

Each department should have a Virtual Fracture Clinic where the history and radiographs are reviewed. Patients at higher risk may be contacted to attend for earlier MRI scanning if there is increased clinical suspicion for a fracture. If a patient remains symptomatic after two weeks, rapid access to further imaging, routinely Magnetic Resonance Imaging (MRI) scanning, should be readily available. This is usually achieved through a rapid, limited scaphoid protocol that can be undertaken more rapidly than a standard wrist MRI. Targeted imaging in a small number of higher risk patients may be indicated following virtual review.

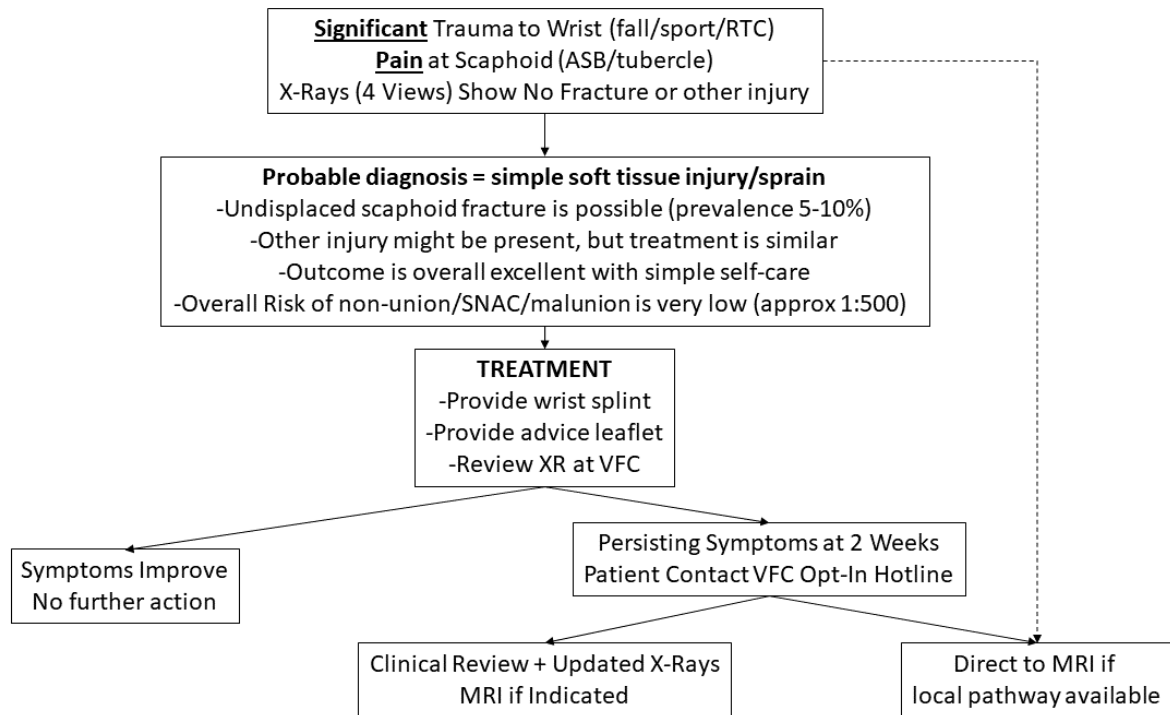
The VFC should have a process to review the results of these MRIs in a timely fashion. If a fracture is identified, the patient should be managed appropriately. If no fracture is identified, the patient can be safely discharged. Occasionally another diagnosis is apparent on MRI scanning but the treatment of these is nearly always the same self-managemem

### Audit

Units are encouraged to maintain ongoing audit cycles of the management of suspected scaphoid fractures within their unit.

It is acknowledged that some units will have developed protocols that include wider early MRI scanning to guide diagnosis. It is accepted that such arrangements should be preserved. Inclusion and exclusion criteria should be examined to ensure that best use is made of an extremely limited resource and that patients at extremely low risk of complication do not experience significant over-treatment.

## Pathway Flow Diagram



### References

<https://www.boa.ac.uk/resources/medicolegal-articles/legal-aspects-of-virtual-fracture-clinics.html>

<https://online.boneandjoint.org.uk/doi/abs/10.1302/0301-620X.104B6.BJJ-2021-1464.R2>

<https://www.nice.org.uk/guidance/ng38/chapter/recommendations>

### Methodology

This consensus statement has been written by a team of clinicians from across Scotland who are experienced in the management of wrist injuries. It represents a clinical pathway that balances optimum patient safety with effective use of resource. It also empowers the patient to monitor their own recovery and opt-in according to agreed “safety netting” advice. Other pathways may exist, considering local variation in provision of services and imaging resources. Therefore, adoption of this pathway or a similar pathway justified by local practice and audit is encouraged. This statement is guided by the principles of Realistic Medicine. The aim is to reduce over-treatment, immobilisation, stiffness, unnecessary x-rays and scans and unnecessary visits to hospital. It is also guided by a realistic appraisal of the true risk of complication of immobilisation of an occult scaphoid fracture.

### Authors

- Paul Jenkins, Consultant Orthopaedic Surgeon & National Clinical Lead – Orthopaedics, CFSD
- Lech Rymaszewski, Clinical Lead – ACRT Programme, CFSD
- Jane McEachan, Consultant Orthopaedic Surgeon, QMH Dunfermline
- Andrew D Duckworth, Consultant Orthopaedic Surgeon, Edinburgh Royal Infirmary
- Clare Miller, Consultant Orthopaedic Hand Surgeon, Aberdeen Royal Infirmary
- Iain McGraw, Consultant Orthopaedic Surgeon, Glasgow Royal Infirmary
- Amit Putti, Consultant Orthopaedic Surgeon, NHS Forth Valley

### Review & Endorsement

Mark Blyth, Consultant Orthopaedic Surgeon, Chair Scottish Orthopaedic Service Delivery Group



**xxx@gjnh.scot.nhs.uk**



**www.nhscfsd.co.uk**



**@NHSScotCfSD**



**Centre for Sustainable Delivery**



Scan the code to visit our website

