Carpal bone fractures account for 63% of total body fractures and 18% of hand fractures. Scaphoid fractures are the most common carpal bone fractures with an incidence of 36 per 100,000 per annum. Undiagnosed scaphoid fractures can lead to non-union and avascular necrosis, with consequent arthritis, pain and loss of function. Scaphoid fractures are often negative on initial x-ray leading to repeated clinic attendance, multiple imaging and delayed diagnosis.

**BACKGROUND TO THE AUDIT**
- Carpal bone fractures account for 1% of total body fractures and 18% of hand fractures.
- Scaphoid fractures are the most common carpal bone fractures with an incidence of 36 per 100,000 per annum.
- Undiagnosed scaphoid fractures can lead to non-union and avascular necrosis, with consequent arthritis, pain and loss of function.
- Scaphoid fractures are often negative on initial x-ray leading to repeated clinic attendance, multiple imaging and delayed diagnosis.

**AUDIT METHODOLOGY**
- A new algorithm was implemented in June 2014 in which patients with x-ray negative suspected scaphoid fractures were referred for limited MRI after one x-ray rather than two, thus shortening the time to diagnosis.
- The main aim of the audit was assessment of compliance, with a secondary aim of increasing awareness in the new pathway.
- A total of 46 patients were reviewed and the following analyzed: age, gender, the number of x-rays pre MRI, the number of sequences per MRI scan, the final diagnosis and also the time taken from:
  - date of injury to MRI scaphoid request,
  - date of request to the scan being done and
  - date of scan to verified report.

**AUDIT STANDARDS**
- A&E attendance to MRI request: one week.
- Request to verified report: one week.
- A&E attendance to verified report: two weeks.
- One x-ray only before MRI.
- Limited MRI protocol: T1 and STIR coronal only.
- Same day MRI if possible.

**RESULTS OF AUDIT**
- 59% of requests made within one week of injury.
- 74% of scans done and reported within one week of request.
- 72% of scans done and reported within two weeks of injury.
- 63% of the MRIs were reported on the same day.
- 17% of patients had more than one standard x-ray pre MRI.
- 6.5% of patients had a scaphoid fracture on the MRI.

**CONCLUSIONS AND ACTION PLAN**
- Significant reduction in time to final diagnosis compared with previous audit in 2010 (mean 1.8 weeks from 4 weeks).
- Nevertheless protocol not adhered to in significant number.
- Main reason for reduced adherence to protocol was inattention to or lack of knowledge of the protocol.
- To notify all departments, local GP surgeries and local walk in centres about the protocol.
- Re-audit in summer of 2015.

**REFERENCE**