Are too many neonatal lumbar spine ultrasounds being requested to interrogate “Sacral dimple”?  
Zubair Sarang and Claire Keaney - Sandwell and West Birmingham Hospital NHS Trust, UK 2018

INTRODUCTION
In our trust, it was felt that a large volume of neonatal lumbar spine ultrasound (US) scans being performed were not justified as they fell outside Royal College of Radiology standards.

STANDARDS + TARGET
(as per Royal College of Radiology, UK)
P08: Congenital disorders of the spine in children
P19: Sacral dimple/pit or other cutaneous stigmata in children (e.g., hairy patch)
TARGET: Aim for 100% compliance

METHOD – 1st CYCLE
Retrospective data was retrieved for all US scans coded “lumbar US spine” & “US lumbar spine scans” performed trust wide in the period: 20th Dec 2007 to 19th Dec 2014

CATEGORIES evaluated: age of referral, referral to scan times, age at scan, who referred the patient ?, clinical history, relation of clinical history to referrer, outcome of scan

RESULTS – 1ST CYCLE
Over the seven year period - 20th Dec 2007 to 19th Dec 2014:

- 501 US lumbar spine/ US spine reports were retrieved

- 126 of these were neonatal requests = 32 hours scan time

- A general upward trend in referrals per year was noted, peaking at 40 referrals in 2014

- Based on RCR standards: P08 and P19, 56% of scans performed in the above time period should not have been done

- Junior doctors were peak referrers comprising 77% of all referrals made

1ST ACTION PLAN
1. Our radiology and paediatrics departments formulated a local trust/ hospital guideline: “sacral dimple guideline from the neonatal network 2015-2017” (Fig 1)
2. When a GP referral was declined, a standard response letter with trust guideline attached (Fig 2) was sent across
3. Trust guidelines were integrated into regular trainee teaching sessions and local GP meetings
4. Audit to be repeated in Dec 2017 after implementing action points 1, 2 and 3

QUICK SUMMARY OF 2nd CYCLE RESULTS
Did the 1st action plan make a change? YES
2nd cycle audit period: 1st Sept 2015 to 30th Nov 2017

Similar method and data categories collected/ evaluated as per cycle 1.
1. Early net reduction and early downward trend for overall number of referrals received over two year period
2. Overall reduction of 56% to 24% in the number of US requests lacking information to be justified
3. In the above time period approximately half (48%) of all US lumbar spine referrals were now scanned within two weeks, compared to previous cycle (19%)
4. Junior doctors remain the greatest in number of requestors (70%)
5. All scans requested by junior doctors that didn’t have enough information on the request card to warrant an ultrasound scan were normal.
6. Additional learning point: US spine over the age of 4 months to interrogate spinal related pathology is likely to be futile due to ossification - expect to have a report that says "within limits", “grossly”, “recommend further imaging”!

FUTURE WORK/ 2nd ACTION PLAN
1. Continue current practice and integration of guideline, especially into trainee teaching sessions and GP meetings.
2. Re-audit triennially


Fig 1 Sacral dimple guideline from the neonatal network 2015 - 2017

Fig 2 Letter to GP explaining reason for decline