# Are too many neonatal lumbar spine ultrasounds being requested to interrogate ‘?Sacral dimple’?

**Descriptor:**

This audit assesses and reviews the number and quality of lumbar spine ultrasound scans (USS) performed in a department, specifically to investigate pathology associated with a sacral dimple (or other associated cutaneous stigmata) in the neonate.

**Background:**

Referrals for lumbar spine ultrasound to assess for possible spinal dysraphism are relatively common. They should be appropriate to ensure that examinations can be performed in a timely manner, avoiding inefficiency in the number of hours spent scanning and unnecessary financial expenditure by a department, as well as the parental anxiety caused by unnecessary investigations.

Background points to consider when designing this audit:

•    A lumbar spine USS performed > 4 months is unlikely to be useful due to ossification (age at time of scan)

•    Are the USS scans performed to departmental deadlines? Are delays due to there being too many unnecessary scans?

•    Is there a relevant clinical history provided to justify the scan? Does any particular referrer provide too little or too much information in the clinical history?

•    How would recommendations be delivered to professionals/ requestors of this service?

•    Does the clinical information provided correlate with USS findings?

## The Cycle

**The standard:**

All the following standards should be co-reviewed with local paediatric colleagues.

All USS lumbar spine/spine requests should be performed within an appropriate time frame and upper age limit - both agreed between the local radiology and paediatric departments.

All patients with “atypical dimples”, specifically: those that are large (>5mm), or high on the back (>2.5cm from the anus), or those with a base not visualised, or not in the midline, or appear with a combination of other lesions for example cutaneous markers, should be offered an USS lumbar spine/ spine as the initial investigation – (iRefer standard P8/P19)1,2.

All patients with typical or atypical dimples, and with abnormal neurology should be offered an USS lumbar spine as the initial investigation (an MRI study would most likely follow) – (iRefer standard P8/P19)1,2.

All patients with “stigmata of spinal dysraphism or associated congenital abnormalities such as infantile haemangiomas of the lumbosacral region”, should also be offered an USS lumbar spine/ spine as the initial investigation – (iRefer standard P8/P19)1,2.

All patients with "typical dimples", specifically: those that are <5mm, and where the base of the dimple is visualised, and is situated </= 2.5cm from the anus, and is in the midline, and have normal neurology, would not require an USS lumbar sacral spine.

**Target:**

100% of US lumbar spine/ spine requests should be justified AND accepted, declined or further discussed (with the referrer/requestor) against Royal College of Radiology guidance described above 1,2 (see section “the standard”).

## Assess local practice

**Indicators:**

• Compare the age at time of request to the age at time of examination – is there an established waiting time interval between requesting and performing the examination?

•   Clinical history provided  -  Does any particular referrer/requestor provide too little or too much information in the clinical history? Is the referral in accordance with the RCR iRefer standards P8/P191,2?

•   USS findings - Does this correlate with the clinical information provided?

**Data items to be collected:**

For each USS request collect the following data: Age of referral, Age at scan, Referral to scan times , Who referred the patient and/or who requested the scan?  Full clinical information provided by clinician? Outcome of scan

**Suggested number:**

50-100 patients - dependant on departmental workload. Analyse data to work out number of scans in a particular time period, for example number of scans performed per week or month.

**Suggestions for change if target not met:**

Recommend following suggestions:

• Create a local guideline integrating RCR guidance1,2,3 (see an example file under Resource used by the authors trust)

• Involve paediatric team input to review where service can be improved.

• Consider integrating/inserting iREFER standards into questions within the RIS requesting software, or limit the requesting of USS lumbar spine/spine for sacral dimples to certain members in the paediatric team.

• Inform relevant referrers/requesters (for e.g. junior doctors) by way of organised teaching and advertising posters/guidelines in department/ ward/ handover/ induction material.

• In the community, attend and teach at relevant meetings (for e.g. GP practice teaching seminars).

• Relay information to referrers in writing with copy of local guideline (see example in resource files) if US not justified.

**Resources:**

Local PACS/RIS system to collect data or similar system enabling extraction of relevant patient data.

[**neonate\_us\_lumbar\_spine\_decline\_letter\_to\_requester.pdf**](https://www.rcr.ac.uk/sites/default/files/audit_template/neonate_us_lumbar_spine_decline_letter_to_requester.pdf)PDF - 93.4 KB

[**an\_example\_of\_a\_pathway\_used\_by\_the\_authors\_trust\_-\_the\_staffordshire\_shropshire\_and\_black\_country\_neonatal\_operational\_delivery\_network\_neonatal\_guidelines\_2017\_-\_2019\_page\_number.pdf**](https://www.rcr.ac.uk/sites/default/files/audit_template/an_example_of_a_pathway_used_by_the_authors_trust_-_the_staffordshire_shropshire_and_black_country_neonatal_operational_delivery_network_neonatal_guidelines_2017_-_2019_page_number_0.pdf)PDF - 140.16 KB

**References:**

1. (Source iRefer) P08: Congenital disorders of the spine in children

<https://www.irefer.org.uk/guideline/congenital-disorders-spine-children>

1. (Source iRefer) P19: Sacral dimple/pit or other cutaneous stigmata in children (e.g., hairy patch)

<https://www.irefer.org.uk/guideline/sacral-dimplepit-or-other-cutaneous-stigmata-children-eg-hairy-patch>

1. The Staffordshire, Shropshire and Black Country Neonatal Operational Delivery Network Neonatal Guidelines. Link provided below.

Guideline reference: Page number 297 version 2 (03.18): Click: “Neonatal Guidelines 2017 – 2019” for updated guideline.

https://www.networks.nhs.uk/nhs-networks/staffordshire-shropshire-and-black-country-newborn/neonatal-guidelines

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