



An Evaluation of the Use of Spinal Ultrasounds in Neonates at a Tertiary Level Neonatal Unit

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Purpose: To gather information about spinal ultrasounds ordered at the Royal Brisbane and Women's Hospital (RBWH) and to determine the appropriateness of spinal ultrasound requests.

Methods: A chart review was conducted of all patients who had spinal ultrasounds ordered at the RBWH between January 2015 to January 2020. Demographics, background information, clinical indications, ultrasound findings and follow-up details were collected. Summary descriptive statistics were used to analyse the collected data which was then compared to existing research and recommendations.

Results: 148 infants were identified, of which 7 were diagnosed with spinal dysraphism. In all these cases, the infants either had a haemangioma, mass or significant comorbidities. 130 ultrasounds were normal, of which 29 showed a normal variant. 13 ultrasounds showed an abnormality without cord tethering, one of which later had spinal dysraphism diagnosed on MRI. The remainder went on to have either a normal MRI or MRI with uncertain findings not requiring follow up. 88 infants had an ultrasound for an isolated sacral dimple, none of which led to a diagnosis of spinal dysraphism. Of the 8 that were abnormal, 7 did not require follow up after MRI (the remaining infant's MRI decision was pending).

Conclusion: A large proportion of ultrasounds were ordered for simple sacral dimples, which have a low diagnostic yield. Spinal masses and haemangiomas are more likely to be associated with spinal dysraphism. Implementation of a spinal dysraphism guideline would assist in streamlining services and reduce unnecessary downstream testing.

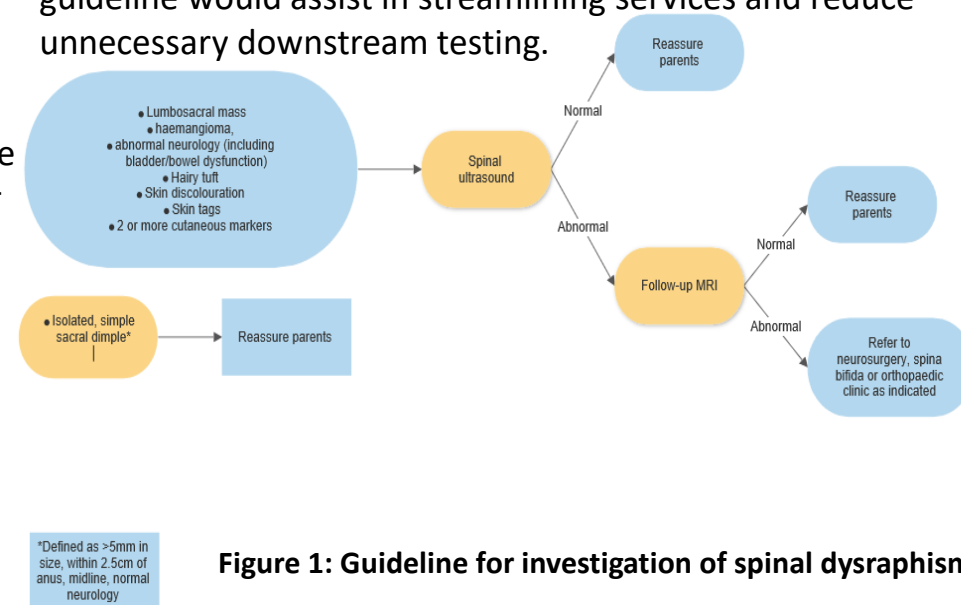


Figure 1: Guideline for investigation of spinal dysraphism