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NEONATAL SUGERY IN HULL UNIVERSITY TEACHING HOSPITALS

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- Introduction and aims

Hull University Teaching Hospitals NHS Trust provides tertiary level Neonatal care for all gestations and is one of four NICUs in the Yorkshire & Humber Neonatal Operational Delivery Network. HUTH provides Neonatal General Surgery with 5 consultant Paediatric Surgeons and 7 Anaesthetists with interests in paediatrics, functioning as a non-specialist tertiary centre.

Our aim was to review all infant paediatric surgical cases within the past 12 months with a focus on establishing the extent of the neonatal workload. This would allow us to assess any areas requiring additional training for maintenance of skills.

- Methods

We reviewed online theatre records of all paediatric theatre cases between January 2022 and December 2022. The data was ratified against our electronic patient record to ensure gestational age, procedure and speciality had been correctly recorded.

- Results

We identified 117 theatres cases in the 12 month review period in children aged between 0-12 months. 47/117 (40%) of which were neonates (gestational age up to 44 weeks). 3 of these cases were under the care of the paediatric medical team, leaving 44 surgical cases, which were all under the care of the paediatric general surgery team. 14/44 children came from the paediatric surgical ward, 11/44 from NICU and 19/44 from neonatal high dependency or special care. The operative procedures were: inguinal hernia/testicular operations: 13; acute abdominal procedures: 21; non acute (central lines/surface operations: 5; pyloromyotomy: 5.

- Discussion and conclusion

Over the past 12 months all of our neonatal surgery has been performed by our specialist paediatric general surgeons. Cases ranged from high risk laparotomies for acutely unwell neonates with necrotising enterocolitis, to more routine, lower risk hernia repairs and central line insertions.

Providing tertiary level care for these neonates requires the co-ordination of several areas and staff groups within the hospital. This may include: anaesthetists, surgeons, paediatricians, radiologists, nursing staff and operating department practitioners, in areas including NICU, paediatric high dependency, surgical wards and theatres.

Technical skills (eg intubation, venous access, caudal anaesthesia) have elements of transferability from older age groups, but still require very specific modifications to technique. Non-technical and human factors skills are perhaps more readily transferrable from non-neonatal practice, though the acuity, team complexity and situational stressors may place greater challenge on the non-

technical performance of the team. Ensuring availability, maintenance and familiarity with neonatal equipment also requires robust systems. In the context of relatively low case exposure for some team members, we suggest a programme of focused technical skills training and regular, integrated, whole team training is required maintain skills. In situ simulation would be well suited to meet these needs as it can include whole teams and real world systems.