Aims Genomic testing is often important in the management of neonates in tertiary care. Tests need to be timely, and families need to be adequately counselled to allow informed decision making. Both teams identified several interventions to improve genetics management on the neonatal unit, particularly in response to the Covid pandemic.

Our objectives were to improve current practices by focusing on two areas:

1. Access to genetics expertise, with an emphasis on virtual working
2. Current practices surrounding consent for genetic investigations

Methods In response to the Covid pandemic a Neonatal-Genetics virtual MDT was implemented in September 2020. Data was retrospectively collected from the medical notes of all neonates referred to genetics during a fifteen-month period (December 2019-March 2021) to allow for comparison of data before and after this intervention. Data was collected on consent documentation for genetic tests (QF-PCR, microarray) in the neonatal unit. As consent documentation appeared sparse, a survey was disseminated to all clinicians on the unit in February 2021 to assess knowledge of genomic testing and consent-taking. An email survey was sent to 6 neonatal units in Yorkshire and the Humber in August 2021 to explore regional variations in consent processes.

Results There was an increase in referral rate from 1.5% to 2.3% after MDT introduction but a 33% reduction in the proportion of babies requiring in-person geneticist reviews. Anecdotally, the MDT was considered a positive change by both teams by facilitating continued communication. Only 11% of neonates (n=2 of 17) had adequate consent documentation for genomic tests by the neonatal team. Of 27 respondents of the staff survey, only 2 (7%) had received formal training in consent for genomic tests and only 22% (n=6 out of 27) felt confident in consenting and explaining genetic testing to parents. All (100%) respondents felt a teaching session on genomic testing would be helpful, and all respondents agreed that it would be beneficial to develop a guideline to aid the consent process. None of the regional neonatal units contacted had a formal education program or standardised guideline in place. In response to this, a teaching programme was devised and a checklist created to facilitate the consent process for genetic testing. The teaching sessions were well-received, attendees scored the sessions an average of 4.8 out of 5 (n=19 respondents) for overall usefulness and quality.

Conclusion Introducing an MDT allowed for streamlined working during the pandemic and facilitated ongoing discussions of neonates with evolving phenotypes, whilst reducing the burden of inpatient reviews for a busy regional genetics service. Our data identified a paucity of genetic test consent documentation and our survey suggested that staff training and confidence around genomic testing/consent was a contributing factor. Therefore, an educational package for clinicians was developed. This was well-received, and a checklist was created to simplify and standardise documentation. A repeat analysis will be undertaken this year to assess the efficacy of these interventions. The intention is to expand the education package and consent checklist to units within our region and beyond.

Aims Informing access to genetics expertise with an emphasis on virtual working

Methods The intention was to expand the education package to include the Yorkshire Regional Genetics Service. A consent documentation and education audit was undertaken in 2021. A full review of all neonates referred to genetics during a fifteen-month period (December 2019-March 2021) was undertaken, to allow for comparison of data before and after this intervention. A data collection audit was undertaken, identifying the need for streamlined documentation.

Methods DNA was extracted from paraffin embedded blocks. A SureSelect Human All-exome Library was sequenced and aligned to the human reference genome (hg19) using the BWA-MEM algorithm. Variants were identified using GATK and dbSNP v142.

Results Of the 40 cases studied, 16 had known syndromic diagnoses. The average time from sample receipt to report generation was 18 working days. The majority of cases were referred from the regional neonatal units with a small proportion from the community.

Conclusions This pilot project demonstrated that the children will benefit from timely access to genetics expertise, with a 20% reduction in the time from sample receipt to report generation, and within the region.

Aims Reporting the genetic findings from the newborn screen

Methods The majority of genetic testing is performed by the Regional Genetics Service in the regional neonatal units in Yorkshire and the Humber. Genetic testing is performed on all cases referred through the newborn screen, and a limited number of cases referred through the regional neonatal units.

Results Of the 23 cases studied, 5 had known syndromic diagnoses. The average time from sample receipt to report generation was 18 working days.
• Provide individual feedback to clinicians identified during the audit
• Improve access to patient advice leaflets
• Develop a template referral letter to GMP requesting support and assessment
• Re-audit in 6 months

**Conclusion** When an unhealthy BMI is calculated we have a duty of care to address this with the family. Our current approach needs improvement.

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**Abstract 726 EXTRAVASATION IN CHILDREN**

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**Aims** Extravasation is a rare but serious complication of IV (intravenous) therapy. It can cause pain, tendon/nerve damage, infection, and in severe cases, tissue necrosis. There is a lack of data on the incidence of paediatric extravasation injuries, but estimates vary between 0.01 and 7%. As extravasation is rare, junior doctors may not be aware of the potential severity. In response to a significant extravasation we decided to review our practice about cannula management and guidance about extravasation on paediatric wards.

We aimed to review our practice and look for ways to reduce the frequency of extravasation and improve the recognition and management of extravasation in children outside of the oncology unit.

**Methods**
1. We performed an audit of paediatric wards to see if cannula insertion was documented as per hospital guideline
2. We reviewed ‘datix’ of extravasation injuries in patients under 16 years of age (excluding neonates) to see if there were common factors
3. We designed a new management of extravasation guideline and provided education about this guideline (figure 1).

**Results**
30% of the 28 cannulated inpatients had a complete record of their cannula insertion and 64% had documented inspections of their cannula site.

- 90 Datix records
  - 51 excluded as under neonatal team
  - 9 omitted due to no documented evidence of an injury
  - 13 were found to have had another adverse event relating to IV infusion (allergic or transfusion reaction) likely demonstrating poor clinical coding of extravasation injuries.

- Of the remaining 15 patients, 73% had an extravasation event involving a cannula (27% involved a central line). In 26% of cases, the injury was either discussed with or reviewed by plastics. 86% were managed conservatively. 1 patient required theatre for line removal. 1 patient required debridement and skin grafting.
- 40% had communication difficulties

**Conclusion** Documentation of IV cannula insertion was far below the 100% expected. We identified that the process was complicated and have created a how to guide, which is in the departmental handbook and will be discussed at induction. We will re-audit this.

We identified high risk groups from the historical cases of extravasation and have highlighted these in our new guideline. We did not have an up to date guideline for extravasation outside of the oncology department and felt this was needed. The guideline was created alongside the plastic surgical team allowing us to be clear about the need for their early intervention.

We continue to provide an ongoing education programme to nursing and medical staff about the importance of prevention, recognition and treatment of extravasation.

**REFERENCES**