

## DOCUMENTING PAEDIATRIC SURGICAL ONCOLOGY WORKLOAD TO INFORM SERVICE PLANNING

Rania Kronfli<sup>1</sup>, Boma Lee<sup>2</sup>, Aileen Rooney<sup>1</sup>, Philip Hammond<sup>1</sup>, Fraser Munro<sup>1</sup>

<sup>1</sup>Royal Hospital for Sick Children, Edinburgh, UK, <sup>2</sup>Royal Hospital for Children, Glasgow, UK

**Aim of the study:** To document the paediatric general surgery workload involved in supporting a tertiary haematology and oncology service to inform planning and organisation.

**Methods:** Retrospective review of prospectively collected operative database. All haematology and oncology patients up to 16 years of age who underwent procedures between 1997-2015 inclusive were identified. Patient demographics and operative data were recorded and analysed.

**Main Results:** Over the time period, 1008 patients were identified (468 (46%) were female).

39% of patients had haematological malignancies, 35% had solid tumours and 26% had CNS tumours.

These patients underwent 2551 general surgical operations, 64% (1628) as an emergency.

71% of the procedures were related to vascular access (1813 operations - 1062 insertions, 751 removals). Lines and ports were used and removed with similar frequency.

Biopsies represented 11% of procedures. Half of the biopsies were performed by open technique (mostly in the first 9-year period), 41% were performed using minimally-invasive surgery and 8% were performed percutaneously, under image-guidance (particularly in the last 9-year period).

178 tumour resections were performed (7% of procedures), with the majority (78%) being performed by open surgery.

Other surgical interventions included procedures for enteral feeding, ureteric stenting and faecal diversion among others.

**Conclusions:** The vast majority of paediatric surgical oncology practice relates to supportive care in the form of central venous access. Biopsy techniques have evolved over the years with minimally-invasive techniques and image-guided percutaneous techniques superseding traditional open techniques. In addition, there are a number of patients who undergo investigation (including biopsy) for suspected malignancy, who are not included in this cohort, as an oncological diagnosis is ultimately excluded. Although minimally-invasive techniques are employed for tumour resections, careful patient selection is paramount to ensure that excellent outcomes in childhood cancer are not compromised by failure to adhere to oncological surgery principles.