

AB158. An analysis of implant related waste in the Trauma and Orthopaedics Department of Galway University Hospital

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Background: Medical waste contributes a significant burden to our environment and operating theaters have been shown to disproportionately contribute to healthcare associated waste. In orthopaedics and trauma, a portion of this comes from packaging surrounding implants, which often consists of non-recyclable cardboard and single use plastics.

Methods: During of a standard open reduction internal fixation of a single malleolus ankle fracture all implant related waste was collected. We recorded the amount of implant related waste associated with each case by weight in grams, and also recorded what proportion of the waste was cardboard *vs.* plastic and what proportion was recycled.

A retrospective audit of theater books was carried out to establish to number of ankle open reduction internal fixations our unit over the course of one year.

Results: In total, 209 patients underwent open reduction internal fixation of an ankle fracture in Galway university hospital between July 2018 and July 2019. In the case studied 211 grams of implant related waste was produced. Of this, 144 grams was cardboard, 42 grams was hard plastic and 25 grams was soft plastic. In one year this would account for over 44 kilograms of waste from one type of procedure alone. Of this waste only the hard plastic was recyclable. No theaters contained recycling bins.

Conclusions: Orthopaedic implants contribute a significant amount of operative waste, which could be reduced by decreasing the volume and layers of packaging and encouraging recycling. In addition, the use of implant kits which are re-sterilised between procedures is associated with significantly less waste.

Keywords: Environment; waste; implant; theater; reduce; recycle

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