# Improvement in Transporting and Handling of Liquid Waste Drum KK Women's and Children's Hospital **Singapore Healthcare** Management 2015 SingHealth

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# **Background:**

Haematology Lab uses an automated slide maker and stainer (SP-1000) which generates methanol waste. The waste is collected in a waste drum which, when full, can weigh up to 20 kg. The waste drum then needs to be transported and stored in a waste holding room before being sent for disposal by licenced vendor. Previously, the waste drum needs to be manually moved between platforms of different heights. This movement is physically taxing and risks injury. (see figure 1, 2 and 3). Improvement was made to the transportation process to make it more ergonomically friendly.

# **Methodology:**

Different improvement plans were reviewed and discussed to redesign the handling of the waste drum:



	Suggestion	Advantage	Disadvantage
1	To reduce the capacity of the waste drum.	Waste drum will weigh lesser when filled, hence eliminating the ergonomic risk involved in transporting the waste drum.	The waste drum will be filled up quickly and frequent trips have to be made to the waste holding room.
2	To transport the waste drum when it is half-filled.	Waste drum will weigh lesser when filled, hence eliminating the ergonomic risk involved in transporting the waste drum.	It will be less cost effective given the increase in number of waste drums used. Frequent trips have to be made to the waste holding room.
3	To hold the waste drum using a wheeled trolley.	Transporting the waste drum using a wheeled trolley helps eliminate unnecessary movements and potential ergonomic risk .	Nil

### **Result:**

A specially-designed trolley addressed the ergonomic issue. It

Figure 1: The waste drum holding the methanol waste generated by the automated slide maker and stainer.



includes a container catchment, stopper and a handler. An empty waste drum is placed in this trolley to collect the methanol waste. When the waste drum is full, together with the trolley they can be easily wheeled away from the equipment to the waste room. This eliminates unnecessary movements and potential ergonomic risk issue. (see figure 4 and 5).



Figure 2: Staff moves the waste drum from the platform onto a trolley.

Figure 3: Staff transporting the waste drum to the waste holding room.

Figure 4: A new specially-designed trolley (with wheels) is used to hold the waste drum.

Figure 5: The waste drum being wheeled away together with the specially-designed trolley to the waste holding room.

# **Conclusion:**

The specially-designed trolley has greatly improved the ease of movement of the waste drum and reduced potential ergonomic risk issue.