Pictorial Guide To Aid Staff On Correct Sequence of Blood Draw In Changi General Hospital

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Introduction

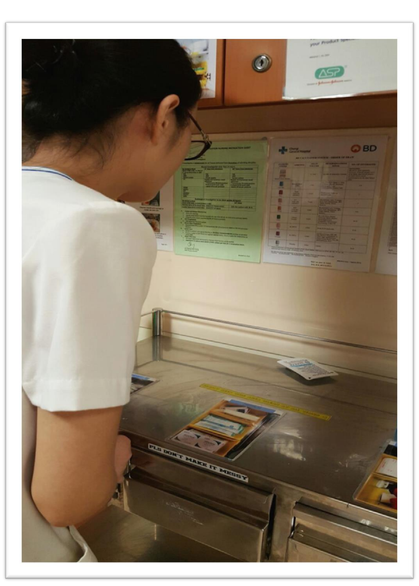
Blood collection tubes must be drawn in a specific sequence to avoid cross-contamination of additives between tubes.

The improvement project was conducted in Ward 46 to reduce waste due to rework because of wrong sequence of blood draw by ward staff.

Background

There have been incidences of rejected blood samples due to wrong sequence of blood drawn, in particular, if EDTA is taken before Serum (plain tube), the Potassium (K in chemical term) from EDTA tubes will go into the plain tube. Since potassium is measured using blood from the plain tube, the potassium will be falsely high.

1. The **existing reference guide** is not placed at a strategic location where staff would normally perform blood draw.
2. Staff had to go to nurses station to have a look at the reference guide before drawing blood at patient bedside.

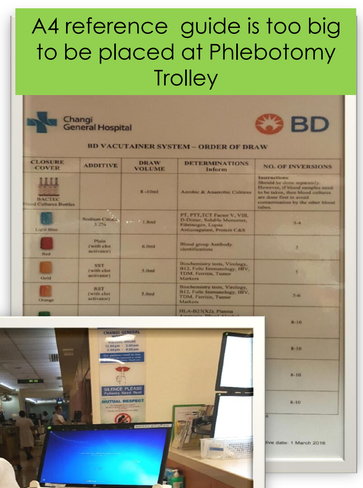


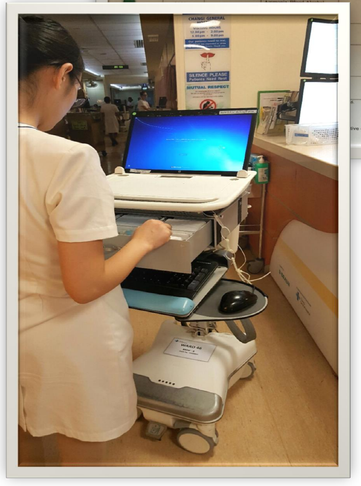
Methodology

A **Kaizen improvement** was piloted on August 2015 in ward 46 to reduce rework due to wrong sequence of blood drawn. Staff feedbacks were gathered and results showed that only **10%** of ward staff were comfortable with the current reference guide and most felt the following:

- The existing reference guide is located far from the phlebotomy trolley.
- The guide is wordy, less visual, and has too many information not necessary to facilitate immediate guide to blood draw sequence.
- The phlebotomy trolley used for drawing blood does not have any reference guide .

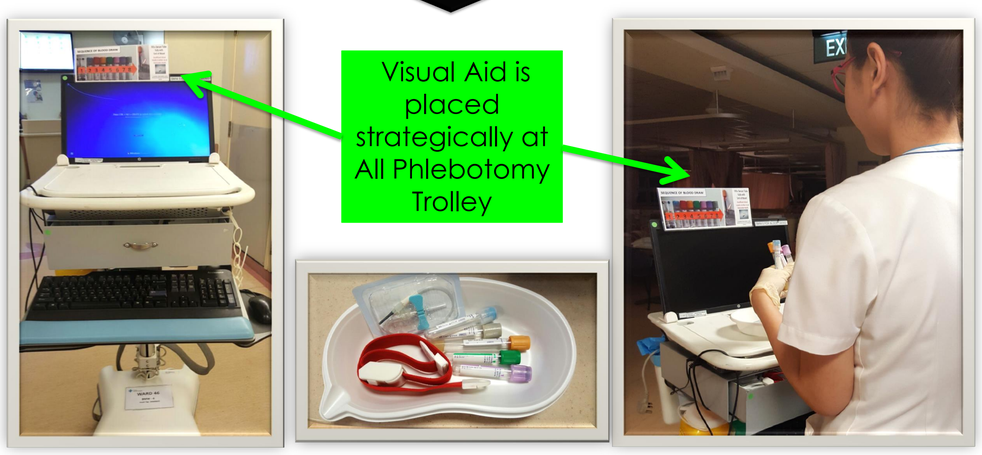
A4 reference guide is too big to be placed at Phlebotomy Trolley





Outcome

The blood draw sequence guide was redesigned to be **more visual**. A **simplified coloured pictorial guide** using various specimen tubes in sequence of blood draw was strategically placed above the monitor screen of each **phlebotomy trolley** as first hand guide for all Staff



The improvement in Ward 46 was implemented and was later identified as best practice to spread throughout the hospital. This has resulted in:

Improved Patient Safety

The number of rejected blood specimen due to clotting or lysis caused by wrong sequence of blood drawn was reduced. This improved timeliness of patient treatment from **93%** to **95%** (translates to additional **190 patients** per month or **2280 patients** per year).

Reduced Rework and Improved Productivity

The improvement team managed to establish a visual standard of blood draw sequence across the hospital. The reduction of rework helped to improve productivity by releasing staff time to patient care by up to **247 hours** per month.

Conclusion

The project resulted to standardised blood draw pictorial guide and placement in all phlebotomy trolley. It helped to improve timeliness of treatment to patients by reducing rework due to lysis caused by incorrect sequence of blood draw. The project was implemented across the hospital in November 2015.