

Improving surgical scrub time in the eye operation theatre using quality improvement methodology

Dear Editor,

An effective surgical scrubbing routine is essential but often surgical teams compromise scrubbing technique and scrubbing time.^[1] Noticing the inadequate surgical scrubbing time in the operation theatre of our eye hospital, a team of nurses led a pilot quality improvement (QI) project to improve surgical scrub time. A QI team collected data on selected operation theatre days (Tuesday/Friday), for 1 h (9 AM–10 AM) for both resident surgeons and nurses from only one scrub station in a nonobtrusive manner. Consent was not individually taken. Scrub time was measured from starting water tap with surgical scrub application till closure of tap. Scrubbing technique was not studied. A recommended scrub time of 2 min was targeted based on product label of the 4% w/v Chlorhexidine Gluconate solution (Microshield Chlorhexidine Surgical Handwash, Schulke India Pvt. Ltd.).

The baseline data (average 5 residents/nurses daily) was collected for first five sessions and had a median scrub time

of 1.39 min (99 s). Root cause analysis revealed that surgical team never read the product label and were unaware about minimum 2 min scrub time. The single analog clock was not suitable to track seconds' time properly. There was no public display of official policy, educative posters, no orientation of new surgical teams, with no monitoring or audit to assess if surgical teams were scrubbing properly.

The team tested two plan do study act cycles (PDSA).^[2] In first PDSA (session 5) change ideas tested were targeted education via group meetings and social media messages to raise awareness and motivate teams about the need and importance to improve scrubbing time. In PDSA 2 (session 7), an official policy about scrubbing time and technique was circulated/displayed publicly and reminder posters pasted on scrub stations. The analogue clock was replaced by a digital clock to easily track the 2 min time. The same team collected the data and reviewed it twice weekly.

Thereafter, the median scrub time improved and sustained at 2.39 min (159 s), an improvement of 60.6% over baseline and well above the target median of 2 min [Fig. 1]. Scrubbing technique was not studied but is a more important factor to consider than time alone. To implement on a larger scale, video surveillance is useful to improve compliance.^[3] This pilot

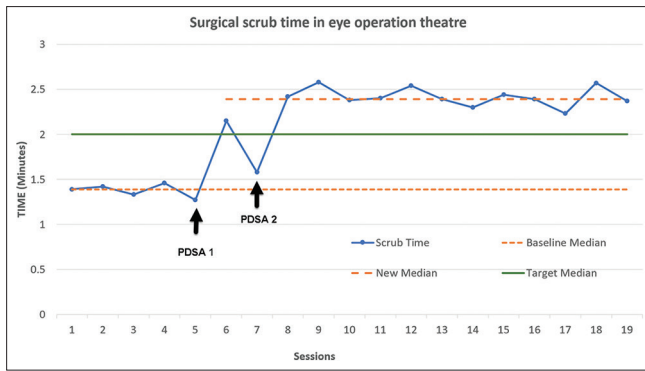


Figure 1: Run chart showing sustained surgical scrub time improvement after two PDSA cycles (arrows), with simple quality improvement initiatives

project highlights how simple quality improvement techniques can improve quality of health care. However, it is essential to incorporate change ideas into health systems so the benefits can be sustained.^[4]

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Conflicts of interest

There are no conflicts of interest.

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