

# The Rate of Surgical Site Infection of Internal Fixation of Closed Fractures among Covid-19 Patients

Tee WJ<sup>1</sup>; Muhammad Nizam G<sup>1</sup>; Loh KW<sup>1</sup>; Basir T<sup>1</sup>.

<sup>1</sup>Department Orthopaedics and Traumatology, Hospital Sungai Buloh, Selangor

## INTRODUCTION:

Infection is the biggest enemy of implants related surgeries. This paper aimed to study the effects of different personal protective equipment (PPE) on rate of surgical site infection (SSI) post internal fixation.

## METHODS:

This is a pilot retrospective review on outcomes of internal fixation for closed fractures among patients with Covid-19 from February 2020 to February 2022.

For the PPE group, surgeons donned in full PPE which includes N95 mask, hood, face shield, gown, apron, boot covers and double layer or gloves whilst Powered Air Purifying Respirator (PAPR) group required application in scrubbing room.

Upon entering the operating room, surgeons then applied hand rub and performed WHO's 6 steps of hand hygiene prior to putting on surgical gown.

PAPR were used in patients with active Covid-19 whereas PPE were used when patients were off tagged Covid-19.

Starting January 2022, due to change of hospital protocol, surgeons were allowed to operate on off tagged Covid-19 patients with conventional surgical scrubbing.

## RESULTS:

There were 8 Covid-19 patients underwent internal fixation for closed fractures during the study period.

PPE type	Number of patients	Mean surgery duration (minutes)	Number of patients with SSI
PAPR	1	100	1 (100%)
PPE	4	144.75	0 (0%)
Surgical scrubbing	3	108.33	0 (0%)

Table 1 showing the outcome of internal fixation on patients with Covid 19

## DISCUSSIONS:

Conventional surgical scrubbing and PPE groups did not bring upon SSI. The 1 case with internal fixation done with PAPR was complicated with SSI.

PAPR provides effective protection for surgeons against Covid-19, but it's use in the operating room is yet to be validated<sup>1</sup>, our study seemed to suggest against it.

## CONCLUSION:

We suggest internal fixation of Covid patients to be done after Covid resolves with conventional surgical scrubbing to prevent SSI.

## REFERENCES:

1. Howard, Rex A., George W. Lathrop, and Nathaniel Powell. "Sterile field contamination from powered air-purifying respirators (PAPRs) versus contamination from surgical masks." *American Journal of Infection Control* 48.2 (2020): 153-156.