

# Extending the Arterial Transducer set using the Non-Injectable Arterial Connector

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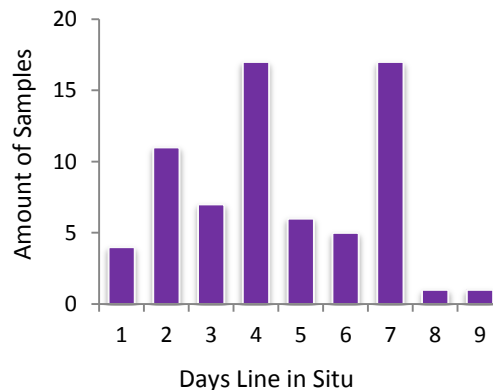


## Introduction

The Royal College of Nurses recommends arterial transducer sets are changed every 4 days (RCN, 2016). This requires a dressing change, risking blood contamination, cannula loss, infection and increased nursing time and cost, however NICE recommends the use of anti-microbial dressings on the arterial cannula site for 7 days (NICE MTG25, 2015). The non-injectable arterial connector (NIC), is a safety device which creates a closed arterial sampling system, prevents accidental arterial injection and bacterial contamination (Mariyaselvam et al., 2015) and is currently provided cost-free to UK hospitals funded by the NHS. We microbiologically examined arterial giving sets to determine whether contamination occurs during extended use, when using NICs on the transducer and sampling luer ports.

## Method

With IRB approval, following clinical use, we collected arterial transducer sets from critically ill patients. Sets were protected during clinical use by NIC connectors on both luer hubs. A representative saline sample from the arterial set was plated onto growth media and incubated for 48hr. Arterial sets used for a duration of 1-7 days were compared. Contamination was classified as >3 colony forming units (CFU, lab standard)



## Results

No contamination was found from the standard or extended time samples ( $p < 0.001$ ). Changing to 7 day arterial sets, reduces transducer usage from 1512 to 944 annually, **saving £9888.88** (13 bed ICU). In addition, this also saves nursing time by 95 hours (2 nurses, at 5 mins each)



## Conclusions & Key Points



When the NIC is used at both transducer and sampling ports, the arterial set can be used for up to 7 days, preventing infection, mis-injection and providing cost savings

**Adoption of this change of practice across the NHS could save £4m annually**