# Effect of standardization on time spent by patients in recovery nursing units after interventional radiology procedures

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# Disclosures

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# What is the problem?



- *While there are society guidelines for withholding anti-coagulation medication for interventional radiology procedures, there are no universally accepted standards for post procedural observation times.*

- *Variations amongst proceduralists in prescribed recovery times for the same procedure*
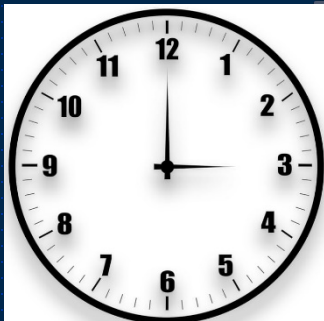


Increased time spent by nursing staff clarifying the order accuracy (e.g., different providers prescribing 30 minutes versus 2 hours post lumbar punctures)

Decreases room efficiency in a busy practice because it is not possible to predict the length of stay for a particular procedure

*The goal of our study was to evaluate the effect of standardizing post procedural observation times for interventional procedures on actual times spent by patients in recovery units.*

# What did we do?

**Neurointerventional Radiology (NIR)**

*Discharge →*

**Vascular Interventional Radiology (VIR)**

*Discharge →*

**Post Procedural recovery units**

**Neurodiagnostic Radiology (NDR)**

*Discharge →*

- Each service tasked with creating a consensus guideline document listing various recovery times for each procedure

- <u>Caveat</u>: *Providers are still able to alter the proposed recovery time at their discretion for a particular patient based on special circumstances*
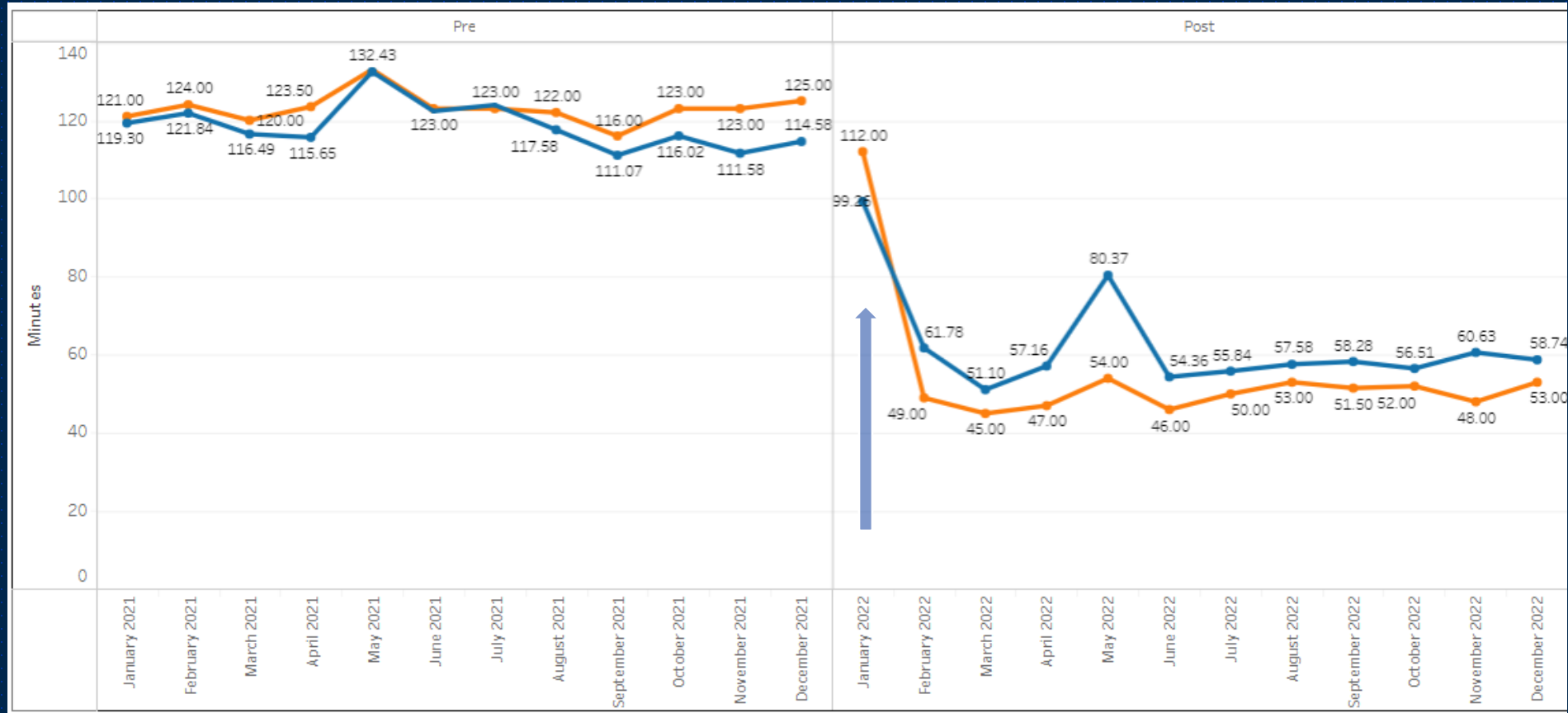
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# Consensus guidelines created and shared

| Procedure Type | RECOVERY TIME (min) |
|---|---|
| PCN/NUS Exchange | 0 |
| PTC Placement | 240 |
| PTC Removal | 30 |
| PTC Exchange | 30 |
| Transjugular Liver Biposy | 240 |
| Ascending Venogram | 30 |
| Descending Venogram | 160 |
| Uterine Fibroid Embolization | 240 |
| Biopsy (misc.) | 180 |
| Fistulagram | 30 |
| Fistula De-clotting | 60 |
| Port Placement | 30 |
| Port Removal | 30 |
| Power Port Placement | 30 |
| Power Port Removal | 30 |
| Tunneled Cath Insert/Exchange | 60 |
| Tunneled Cath Removal | 30 |
| Tunneled Cath Repair | 15 |
| Tunneled Cath De-clotting | 15 |
| PICC Placement | 15 |
| PICC Removal | 15 |
| PICC Repair | 15 |
| G/GJ Tube placement | 240 |
| G/GJ Tube exchange | 15 |

| Procedure Type | RECOVERY TIME (min) |
|---|---|
| Cerebral Angiogram | Mynx, angioseal, perclose device sealed punctures in groin need 2 hr obs before discharge. The same holds true for TR band hemostased radial puncture. Manual compression groin punctures will need to be observed for 4 hrs. |
| WADA | 180 |
| Myelogram | 30 |
| Myelogram/Rad Onc | 30 |
| Lumbar Puncture | 30 |
| Lumbar Puncture with Chemotherapy | 30 |
| Biopsy- Spine or Head and Neck | 60 |

*All changes implemented in Jan 2022*
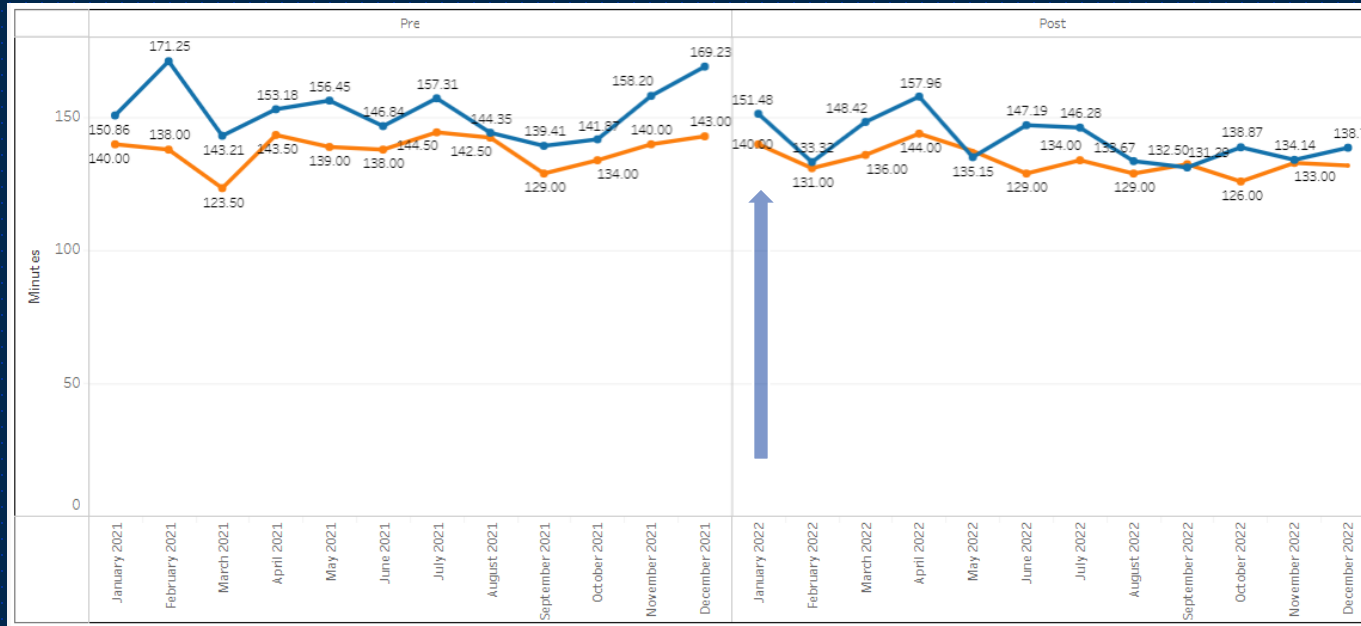
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# Jan-Dec '21 vs Jan-Dec '22



**R E S U L T S**

Neurodiagnostic Radiology
AVE: 119 to 61 min
Median: 123 to 61 min

# Jan-Dec '21 vs Jan-Dec '22

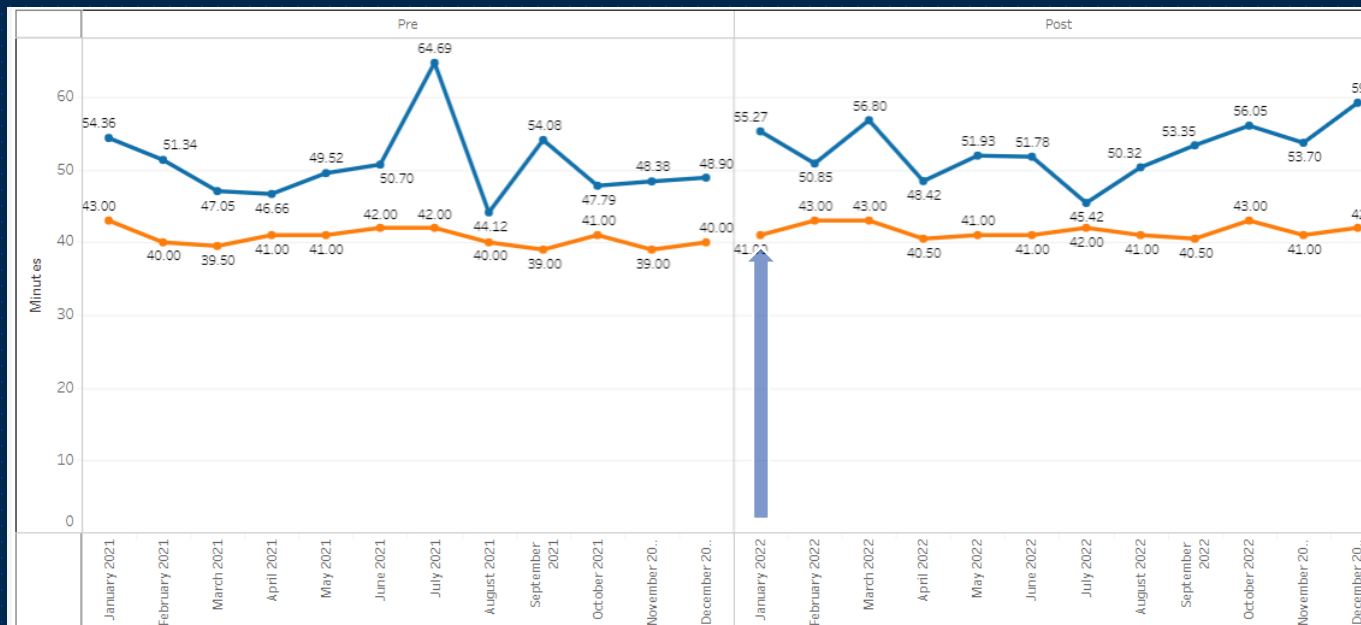**Neurointerventional Radiology**
AVE: 154 to 143 min
Median: 140 to 134 min

**Vascular Interventional Radiology**
AVE: 69 to 66 min
Median: 45 to 45 min

RESULTS

**RESULTS**

AVERAGE

NIR 154 | NDR 119 | VIR 69 | (85)
NIR 143 | NDR 61 | VIR 66 | (73)

MEDIAN

NIR 140 | NDR 123 | VIR 45 | (56)
NIR 134 | NDR 51 | VIR 45 | (49)
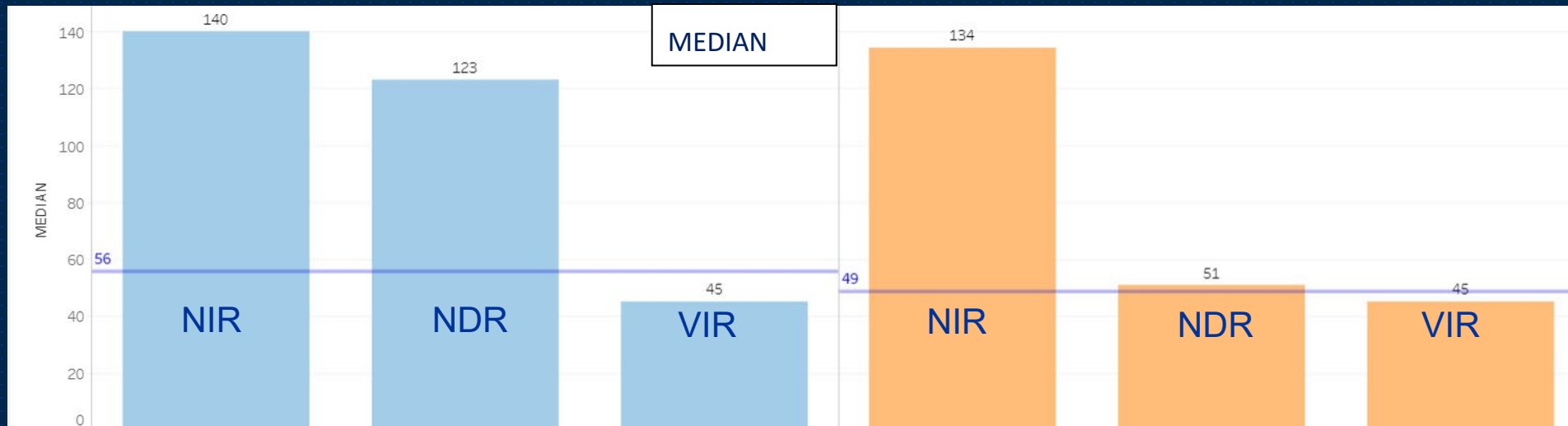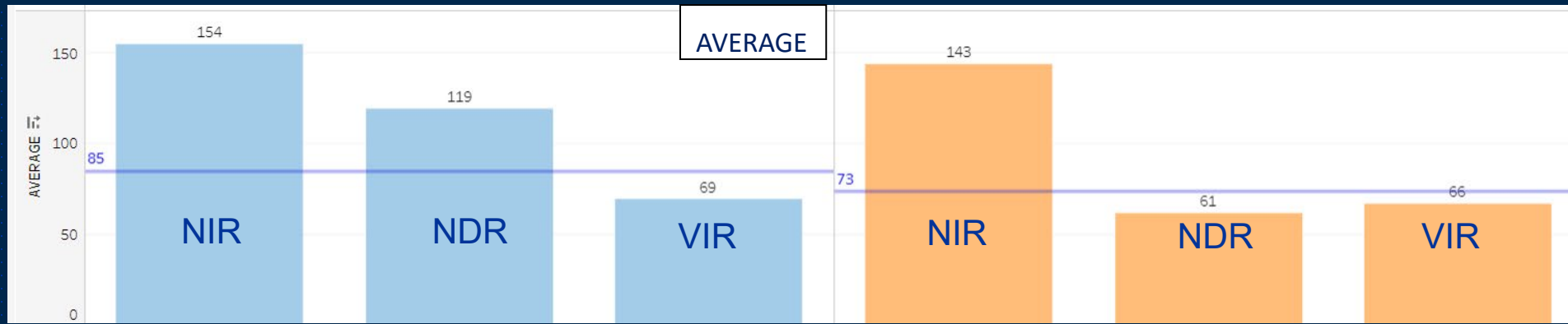
Overall
AVE: 85 to 73 min
Median: 56 to 49 min

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# Discussion

➢ *Process behavior chart demonstrated significant process shift only for NDR procedures and not for NIR and VIR*

➢ *For absolute numbers, the largest effect was seen in NDR procedures with nearly 50% reduction (both median & average) whereas the change in NIR procedures was 4/8% (median/average) and VIR procedures was 0/4% (median/average)*

➢ *Greater than 10% reduction in average and median times was achieved overall for all procedures – this impacts time available to recover patients and improves throughput*

*Informal surveys of the nursing staff post implementation revealed a significant drop in phone calls placed for order clarification*

*There were no changes in the number of risk reports related to post procedural complications after implementation*

# CONCLUSION

- Standardization reduces variation (but only when there are significant pre-existing differences)

- Standardization reduces confusion and the need for clarification

- *Even in areas where standardization did not change the times substantially, there was tangible benefit in terms of eliminating many phone calls placed for order clarification.*



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