

# Improve 1<sup>ST</sup> Pass Intubation Success

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## Aim

To decrease frequency of adverse events by increasing rates of first pass intubation success

## Importance

Multiple intubation attempts increase the frequency of adverse events, including hypoxemia, vital sign instability, and possible resultant brain injury. Evidence suggests greater 1<sup>st</sup> pass success with video laryngoscopy over direct laryngoscopy.

## PDSA cycle

### Plan:

- Collection/evaluation of local intubation data (May – October 2021)
- Identification of areas for improvement (November 2021)

### Do:

- Dissemination of information (December 2021)
- Education and Video Laryngoscopy simulation (March – August 2022)
- Development and use of intubation checklist (October 2022)

Normal Airway Management Protocol	
<b>Pre-Intubation</b>	<ul style="list-style-type: none"> <li>• Confirm patient is appropriate for intubation</li> <li>• Confirm patient is appropriately pre-oxygenated</li> <li>• Confirm patient is appropriately pre-medicated</li> <li>• Confirm patient is appropriately pre-warmed</li> <li>• Confirm patient is appropriately pre-hydrated</li> </ul>
<b>Intubation</b>	<ul style="list-style-type: none"> <li>• Confirm patient is appropriately pre-oxygenated</li> <li>• Confirm patient is appropriately pre-medicated</li> <li>• Confirm patient is appropriately pre-warmed</li> <li>• Confirm patient is appropriately pre-hydrated</li> </ul>
<b>Post-Intubation</b>	<ul style="list-style-type: none"> <li>• Confirm patient is appropriately pre-oxygenated</li> <li>• Confirm patient is appropriately pre-medicated</li> <li>• Confirm patient is appropriately pre-warmed</li> <li>• Confirm patient is appropriately pre-hydrated</li> </ul>



### Study:

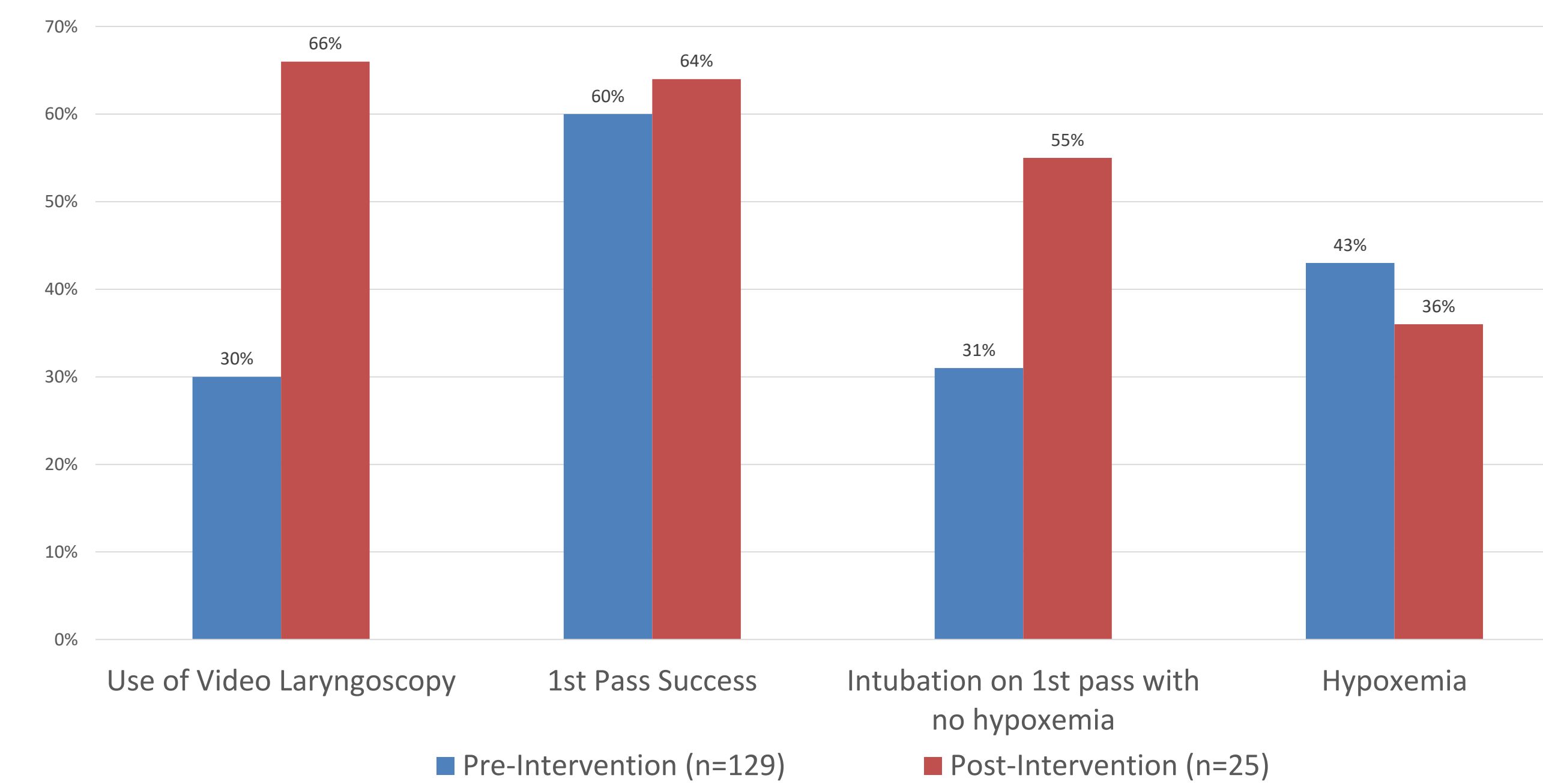
- Frequency of use of video laryngoscopy and it's effect on first pass success and frequency of adverse events (October – December 2022)

### Act:

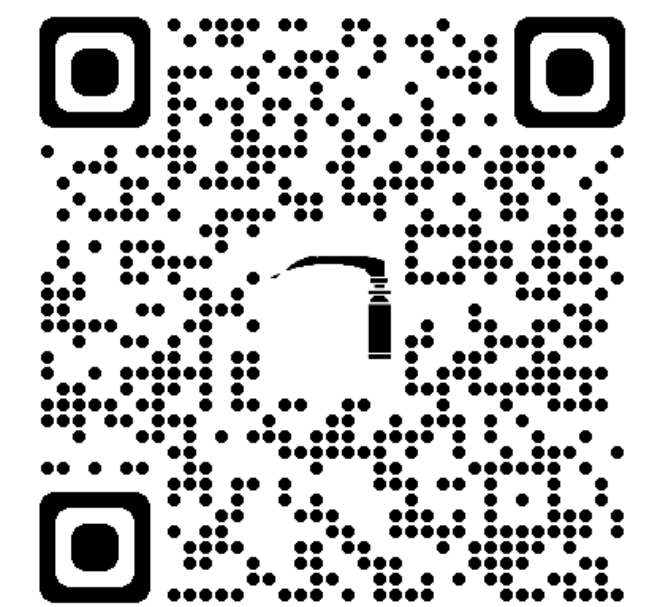
- Early in post-intervention data analysis we observe a slight increase in first pass success as video laryngoscopy use increases. Also noted is a decrease in episodes of hypoxemia. With more experience in using video laryngoscopy, there is an improvement in grade I view of glottis on 1<sup>st</sup> attempt.

## Results

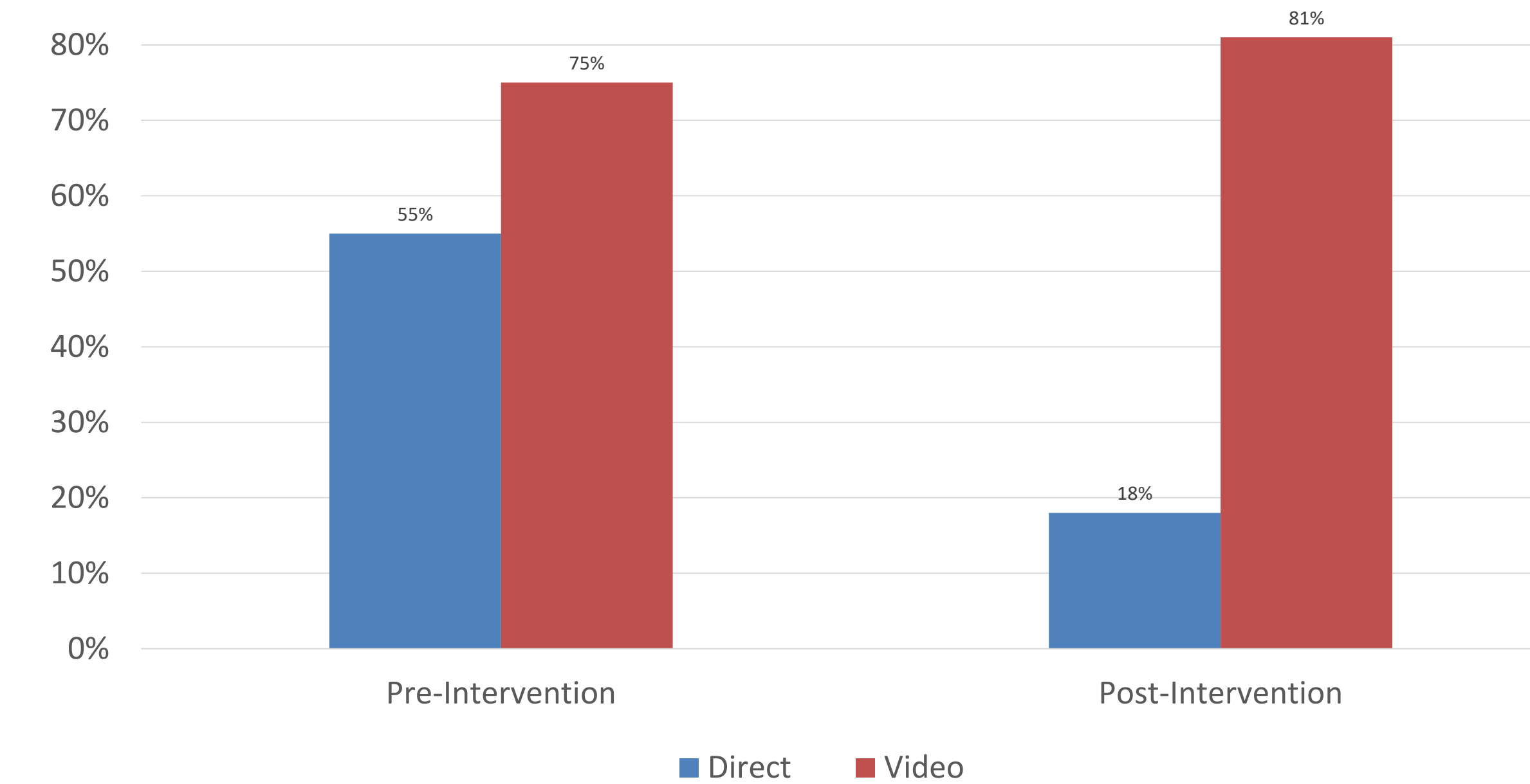
### Local Intubation Data Pre/Post Intervention



Scan QR code for sample data collection tool



### Grade 1 View on 1st Attempt



## Lessons Learned/Future Plans

- Practitioners experienced with direct laryngoscopy may have some difficulty and/or hesitation to use video laryngoscopy
- Video laryngoscopy facilitates teaching of new learners and allows for both live and retrospective review of anatomy.
- Continued recommendation for use of video laryngoscopy and ongoing simulation
- Video laryngoscopy education for new residents and practitioners
- Continued monitoring of intubation data to confirm greater success with video laryngoscopy and to identify areas of improvement
- In attempt to further decrease risks of brain injury, move towards pre-medication prior to all non-emergent intubations, including in delivery room