

Figure 1. Result of needs assessment questionnaire. Number means how many times the resident has had the opportunity to perform the various tasks. Confidence score is based on a 5 point Likert scale, where 1=very uncomfortable and 5=very comfortable.

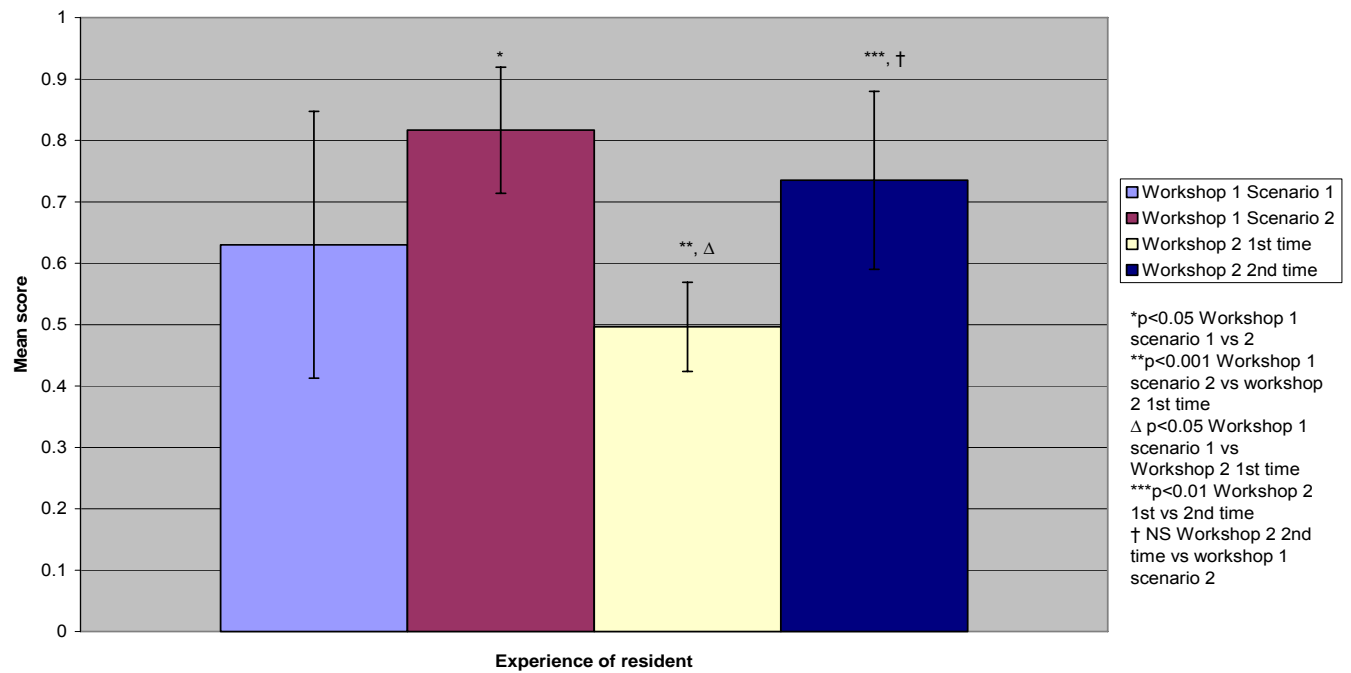


Figure 2. Performance on mock leadership scenarios. Workshop 2 1st and 2nd time refers to whether residents had participated in first workshop 6 months earlier.

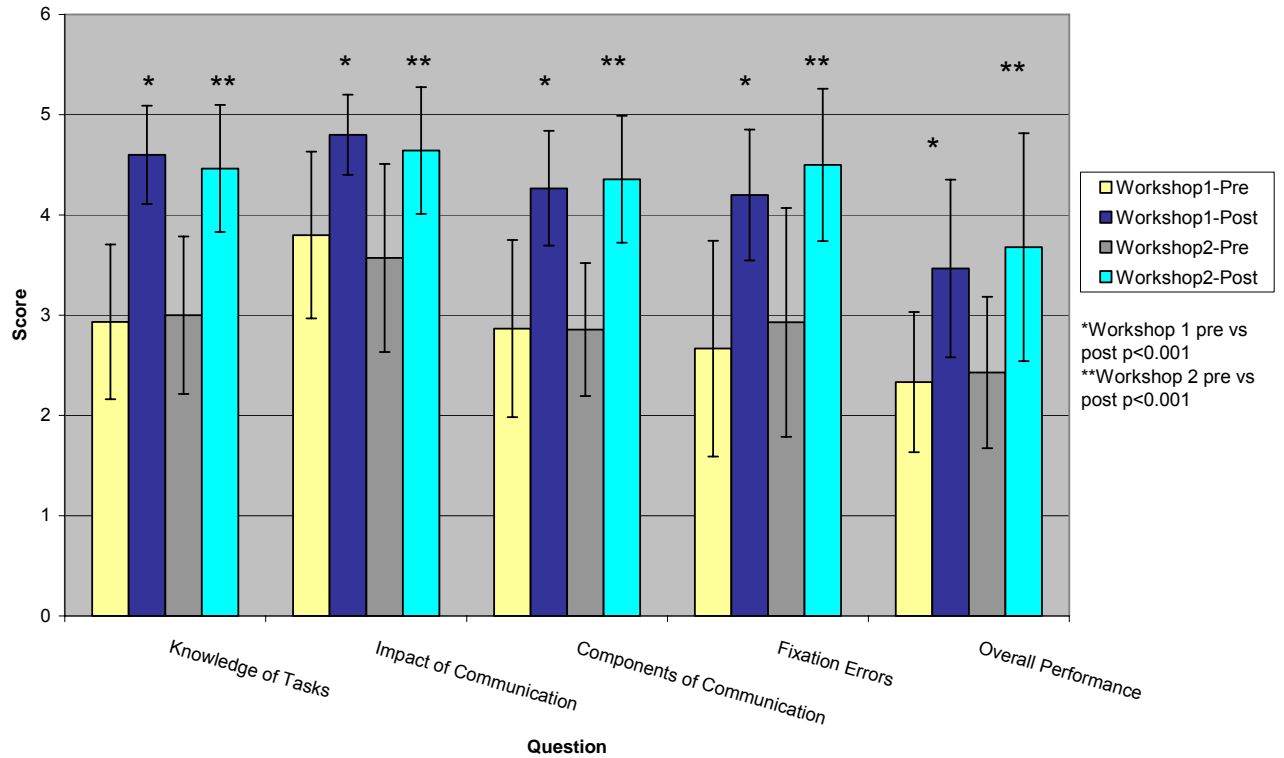


Figure 3. Retrospective pre/post questionnaire results from workshops 1 & 2. Score based on a 5 point Likert scale, where 1=low level of knowledge/understanding and 5=high level.

Appendix 1: Learning Objectives for Leadership Skills Workshop

1. Assign roles to team members:
 - Declare yourself to be in charge of the group
 - Assign PALS algorithm to patient's current condition based on gathered information so far
 - Divide algorithm into distinct steps/actions
 - Recognize skill set of each team member
 - Match members skill set with tasks that need to be done
 - Announce role of each team member to whole team

2. Assess limitations of team members:
 - Recognize skill level of each team member
 - Anticipate difficulty of specific task
 - Compare skill level with difficulty of task to conclude if they are equal

3. Based on limitation of team members (from 2 above), formulate a plan to add skill to team, if required.

4. Continuously reassess and re-evaluate progress of resuscitation using all available information:
 - Acknowledge response or lack of desired response to intervention
 - Avoid fixation errors
 - Generate list of reasons why desired result isn't seen
 - Examine patient to choose likely reason from list, or delegate team member to examine and report findings back to you
 - Create solution(s) to problem(s) identified

Two subtypes of importance of reassessment: physiological derangement of patient and inadequate performance of team member:

- a. Demonstrate use of another algorithm or approach when expected result to an intervention is not happening
 - b. Critically evaluate each team member's performance and redirect him or her as needed:
 - Observe team member performing assigned task
 - Assess effects of actions of team member
 - If performance is inadequate, causing lack of desired response, then redirect team member to improve skill
5. Display effective communication during performance of resuscitation:
- Use calm, clear voice when talking and giving orders
 - State commands clearly and precisely
 - Avoid making statements into "thin air". Direct your orders to a team member by name.
 - Use *closed communication loop*: Repeat what has just been said to you and verify meaning of ambiguous messages
 - Encourage open exchange of ideas among team members by listening to all ideas and determining what is important to know or act upon
 - Defer dealing with interpersonal conflicts until after the resuscitation is finished, unless it's interfering with the performance of the team
 - Quickly manages disruptive behaviour if it is affecting overall team performance

Appendix 2: Evaluation Form Used During Leadership Training Workshop

Scenario #1

<u>Assigning Roles</u>	<u>Yes</u>	<u>Borderline</u>	<u>No</u>
▪ Leader declared	<input type="checkbox"/>		<input type="checkbox"/>
▪ Formulates list of tasks required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Assigns tasks to team members	<input type="checkbox"/>		<input type="checkbox"/>
▪ Announces roles to whole team	<input type="checkbox"/>		<input type="checkbox"/>
 <u>Limitations of Team</u>			
▪ Anticipates difficulty of intubation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Considers ability of team to intubate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Recognizes team not capable of intubating	<input type="checkbox"/>		<input type="checkbox"/>
▪ Formulates plan to add to team: call anaesthesia	<input type="checkbox"/>		<input type="checkbox"/>
 <u>Communication</u>			
▪ Uses calm voice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Orders stated clearly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Orders directed to specific individuals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Team members are made aware of important plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 <u>Overall Team Atmosphere</u>			
▪ Team members notify each other of necessary info	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Team members seek info from others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Team members speak up with persistence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Team members acknowledge orders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Open atmosphere among team members

Scenario #2

Assigning Roles **Yes** **Borderline** **No**

- Leader declared
- Formulates list of tasks required
- Assigns tasks to team members
- Announces roles to whole team

Reassessment of Progress: Bagging

- Acknowledges lack of desired response to bagging
- Generates list of reasons why
- Examines patient (or delegates)
- Concludes ineffective bagging
- Redirects RT to proper technique
- Watches for response after redirection

Reassessment of Progress: Intubation

- Acknowledges lack of desired response to intubation
- Generates list of reasons why (DOPE)
- Examines patient (or delegates)
- Concludes pneumothorax
- Orders needle decompression
- Watches for response after intervention

Management of Distraction

- Leader acknowledges anxiety of RT

- Leader acknowledges impact on grp performance
- Leader attempts to redirect RT
- Leader replaces RT if continues distraction
- Leader reassesses group performance

Communication

- Uses calm voice
- Orders stated clearly
- Orders directed to specific individuals
- Team members are made aware of important plans

Overall Team Atmosphere

- Team members notify each other of necessary info
- Team members seek info from others
- Team members speak up with persistence
- Team members acknowledge orders
- Open atmosphere among team members