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Commentary: Nontechnical skills for perfusionists: Assessing the ability of the person running the pump

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Nontechnical skills have become, during the past 20 years, a fundamental aspect of professional development for each member of a surgical theater team.^{1,2} Several works have investigated, developed, and validated tools to improve them at the surgeon,^{1,3} anesthesiologist,² and nursing⁴ level. Dias and colleagues⁵ have developed a tool to assess nontechnical skills for perfusionists (Perfusionists' Intraoperative Non-Technical Skills [PINTS]), professional figures who are fundamental in the cardiac surgical theater setting. Surgeons use verbal communication to run an operation smoothly and adopt routines that help us reduce complications. The communication flows back and forward among 4 players: anesthesiologist, surgical assistant, perfusionist, and nurses. Perfusionists generally measure

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CENTRAL MESSAGE

Perfusionists' nontechnical skills are fundamental for their integration and interaction with the team. A new tool can assess them, allowing to improve training, mentorship, and work quality.

their performance in terms of compliance with clinical parameters. But in the context of a team activity, the effects of relationship skills and position as professionals represent an element of competence and evaluation. Generally, the communications flow contains indications, but surgeons often rely on nontechnical skills when immediate actions and anticipation are needed. Behavior-related aspects like decision making, task management, multidisciplinary work, and nonverbal communications are fundamental to making the team working smoothly. All these aspects are called nontechnical skills, and their assessment is often delegated to the evaluator's perceptions, which can only be objectified with sophisticated psychometric tools. The PINTS tool⁵ was developed by identifying 4 categories (situation awareness, decision making, task management and leadership, and teamwork and communication) and 4

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behavioral elements in each category representing the skills assessed. The tool did not undergo a formal external validation, representing a possible limitation of the tool, and it was directly tested by asking perfusionists to review and score 4 simulated cardiac surgery videos (2 poor performance and 2 good performance) according to PINTS. The PINTS tool showed moderate agreement between the different raters, indicating that, overall, the behavioral category and elements were adequate to assess the perfusionist performance.

Of note, the evidence of a common perception of behavioral adequacy was independent of working age. How PINTS may become a helpful tool remains an unanswered question. Learning from past experiences,^{1,2} the proper application of an evaluation system is fundamental, and becomes more important than the tool itself. Members of cardiac surgery teams need to promote detailed assessment of each professional aspect, avoiding the judgmental shadow and promoting the inclusive and educational aim of the tool. Perfusion student examination may be enhanced using PINTS to identify strengths and

weaknesses of nontechnical skills, allowing tailored mentorship for better professional development. The PINTS tool may also be used when teams are not working smoothly and they desire to understand the reason and plan team affinity improvement. Finally, it may become part of the professional assessment of perfusionists, similar to surgeon or nurse evaluation.

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