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Commentary: Nontechnical skills in the cardiac operating room: Assessing perfusionists with the Perfusionists' Intraoperative Non-Technical Skills tool

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There has been a wealth of recent interest in the optimization of surgical outcomes through nontechnical measures.^{1,2} Although surgeons were initially the focus of this growing trend, the literature has evolved to include more members of the surgical team. The development of assessment tools for the performance of surgeons (Non-Technical skills for Surgeons [NOTSS] and NOTECHS II), anesthesiologists (anesthetists nontechnical skills [ANTS]), and scrub nurses (Scrub Practitioners List of Intraoperative Non-Technical Skills [SPLINTS]) has allowed for standardized evaluation of their roles in the operating room.³⁻⁶ Recently, a group of expert panelists developed a taxonomy system to include the final component of the cardiovascular operating team: the perfusionist. The new Perfusionists' Intraoperative Non-Technical Skills (PINTS) tool, developed by and for perfusionists, assesses nontechnical skills using an 8-point Likert scale ranging from 0.5 to 4.0 across 16 elements within 4 categories. Dias and colleagues⁷ state that the PINTS tool can be used to train and assess perfusionists to improve safety and patient outcomes.

The PINTS tool was developed by first analyzing previously described nontechnical skill taxonomies and, through a series of focus groups, developing a rubric to grade performance. This tool was then validated by showing 60 perfusionists several simulation videos that

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A new study describes the development of a novel tool, PINTS, for the evaluation of perfusionists' nontechnical skills.

demonstrated good performance and poor performance of a cardiac surgery team. The queried perfusionists were able to accurately assign significantly different PINTS scores to the videos. Even more impressively, this distinctive ability was maintained across all rater experience levels after just 15 minutes of training on the tool. A previously described limitation of the NOTSS instrument is that it demonstrates significant variation between expert and novice raters.⁸ The PINTS tool demonstrates no such drawback because the authors show it has moderate interrater reliability across different levels of clinical experience and can be rapidly implemented with minimal training.

The development of a standardized instrument for perfusionist assessment is exciting progress in the field of cardiac surgery. A growing body of evidence indicates that improving nontechnical skills may be associated with enhanced patient outcomes.^{9,10} With the assistance of the PINTS tool, the hope is that perfusionists can be reproducibly assessed for the purposes of both research and quality improvement. Although it will need to be validated on a larger scale than this initial pilot study, the PINTS tool opens the door for future studies to investigate the relationship between PINTS scores and other variables, such as the incidence of intraoperative adverse events or patient outcomes.

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Disclosures: The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication July 12, 2021; revisions received July 12, 2021; accepted for publication July 13, 2021; available ahead of print July 17, 2021.

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J Thorac Cardiovasc Surg 2023;165:1470
0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2021.07.022>

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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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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 behavioral

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Disclosures: The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication July 10, 2021; revisions received July 10, 2021; accepted for publication July 12, 2021; available ahead of print July 17, 2021.

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J Thorac Cardiovasc Surg 2023;165:1471-2

0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2021.07.018>