

COMMENTARY (FOR INVITE ONLY)

Open Access



# Surgical Apgar Score in thoracic surgery: how to see it coming?

Hussein Elkhayat<sup>1\*</sup>

## Abstract

Risk scores are very crucial for modern surgical practice. In thoracic surgery, it is important to know when a patient might need postoperative intensive care or an early second look for bleeding before it is too late. The Surgical Apgar Score is a simple yet informative tool to help surgeons preemptively prepare and help their patients in a prompt manner.

**Keywords** VATS, Thoracic surgery, Chest, Egypt

## Background

Risk stratification and risk scores are of increasing interest in today's surgical practice. For a long time, thoracic surgery was not in the scope of risk calculation as there was a diversity of diseases with inflammatory diseases historically was the main practice in our specialty rendering scoring to be a difficult task.

## Main text

The article titled "*Surgical Apgar Score can help predict postoperative cardiopulmonary complication and reoperation in lung cancer resection*" [1] explores the potential of the Surgical Apgar Score (SAS) as a predictive tool for postoperative complications and reoperation in lung cancer resection surgeries.

The Surgical Apgar Score is a simple scoring system that evaluates three intraoperative parameters: estimated blood loss, lowest mean arterial pressure, and lowest heart rate. By assigning points to each parameter, the SAS provides a numerical score that reflects the patient's physiological status during surgery. It can be calculated

at any stage of surgery, and it has been used effectively in other specialties [2].

The study conducted by Yücel.zgür and Mustafa Vedat Doğru [1] aimed to assess the usefulness of the SAS in predicting postoperative cardiopulmonary complications and the need for reoperation in lung cancer resection surgeries. The researchers analyzed a significant number of cases and found a strong correlation between low SAS scores and the occurrence of complications and reoperation.

In today's practice where everyone is concerned with enhanced recovery protocols and fast-track patients into usual daily activities. The routine admission of every patient post lung resection into intensive care is no longer routine in most centers and day surgery is kind of modern, and very attractive for patients and Medicare farms, that's why the findings of this study have important implications for the field of thoracic surgery. As SAS could serve as a valuable tool for surgeons to assess which patient had a significant risk of postoperative complications and make preemptive informed decisions regarding patient management. By identifying patients at higher risk, surgeons can proactively escalate patients to high-dependency units or intensive care to minimize complications and improve patient outcomes. While in patients with high SAS, unless otherwise needed, the patient can transfer safely to the ward-saving place in intensive care without compromising patient care.

\*Correspondence:

Hussein Elkhayat  
dr\_khayat@hotmail.com

<sup>1</sup> Cardiothoracic Surgery, Faculty of Medicine, Assiut University, Assiut, Egypt

One of the strengths of this study is the large sample size, which enhances the reliability of the results. Additionally, the SAS is a straightforward and easily calculable score, making it practical for implementation in clinical settings. Putting in mind the fact that major intraoperative bleeding in thoracic surgery is attributed to technical reasons in 75–90% of the early period, makes it more practice to use an intraoperative risk score rather than the preoperative thoracic surgery risk score.

However, it is important to note that the SAS is not the sole determinant of postoperative outcomes. Other factors such as patient comorbidities, surgical technique, and perioperative care also play significant roles. Therefore, the SAS should be used in conjunction with other clinical assessments to provide a comprehensive evaluation of patient risk. Another point is that SAS is still not routinely calculated in most surgical suites, and it needs more measures to be part of daily surgical practice. The question that might arise here is whether a postoperative warning score like the national early warning NEWS score [3] which is been used extensively in most UK hospitals can be of help to predict postoperative complications early in thoracic surgery practice especially with its known involvement of O<sub>2</sub> saturation plus pulse, blood pressure and mental status.

## Conclusions

The potential benefits of implementing the SAS in clinical practice are promising, as it has the potential to improve patient care and proactive surgical decision-making. Further research and validation studies are necessary to confirm the findings of this study and establish the SAS as a widely accepted predictive tool in lung cancer resection surgeries.

## Abbreviations

NEWS National Early Warning Score  
SAS Surgical Apgar Score

## Acknowledgements

Not applicable.

## Authors' contributions

The author read and approved the final manuscript.

## Funding

Not applicable.

## Availability of data and materials

Not applicable.

## Declarations

### Ethics approval and consent to participate

Not applicable.

## Consent for publication

Not applicable.

## Competing interests

The author declares no competing interests.

Received: 15 September 2023 Accepted: 4 October 2023

Published online: 11 October 2023

## References

- Özgür Y, Doğru MV (2023) Surgical Apgar Score can help predict postoperative cardiopulmonary complication and reoperation in lung cancer resection. *Cardiothorac Surg* 31(1):13
- Haddow JB, Adwan H, Clark SE, Tayeh S, Antonowicz SS, Jayia P et al (2014) Use of the surgical Apgar score to guide postoperative care. *Ann R Coll Surg Engl* 96(5):352–358
- Williams B (2022) The National Early Warning Score: from concept to NHS implementation. *Clin Med (Lond)* 22(6):499–505

## Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Submit your manuscript to a SpringerOpen<sup>®</sup> journal and benefit from:

- Convenient online submission
- Rigorous peer review
- Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your next manuscript at ► [springeropen.com](https://www.springeropen.com)