


LETTER TO THE EDITOR

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# The use of Foley catheter tamponade for bleeding control in penetrating injuries

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## Dear Editor,

With great interest, we have read the review article of Simpson et al. [1] on the current evidence and recommendations for the pre-hospital management of penetrating neck injuries (PNI). We would like to comment on the use of Foley catheters to achieve bleeding control from non-compressible penetrating injuries.

In their scoping review, the authors appropriately focus on the application of haemostatic dressings to achieve external bleeding control, but they also suggest to consider Foley catheters as an additional measure to manage bleeding from PNI. Their review process identified a single case series describing the use of Foley catheters in 11 military patients [2]. Some important additional references should be cited to support the use of this adjunct. A recent article by Himmler et al. described the use of this technique in 29 civilian patients actively bleeding from penetrating torso trauma in a single major urban centre in South America [3]. The 24-h mortality was 3.4% and the 30-day mortality was 17.9%. Moreover, in 2020 Scriba et al. described a cohort of 95 patients with PNI in a South-African level I trauma centre, treated with Foley catheters [4]. Bleeding control with haemodynamic stabilisation was achieved in 92 patients (96.8%).

We recently used a Foley catheter to manage a stab wound to the left anterior neck (zone 1) in a 26 year-old male. Police arrived shortly after the incident but couldn't stop the bleeding with external compression with gauzes. After the arrival of the pre-hospital emergency physician, a 16 French Foley catheter was inserted into the wound and the balloon was inflated with 20 ml of saline solution (Figs. 1 and 2), allowing the bleeding to stop immediately. Definitive surgical management revealed a 4–5 cm zone 1 neck wound, with injuries to the anterior jugular veins.

External bleeding control is a well-known challenge for both pre-hospital and hospital teams, as illustrated by the military c-ABC approach of trauma patients [5]. The main conclusion of the scoping review conducted by Simpson et al. is that the currently available evidence pertaining to the prehospital management of PNI is scarce, and essentially based on observational data with low sample sizes. While we agree with the authors that a consensus on the pre-hospital management of bleeding from non-compressible penetrating injuries is needed, we suggest that Foley catheter balloon tamponade should be emphasized as a valuable option.

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**Fig. 1** Foley catheter inserted into zone 1 wound



**Fig. 2** Cervical computed tomography scan with Foley catheter inflated

## Response to letter entitled 'The use of Foley catheter tamponade for bleeding control in penetrating injuries'

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### Dear Editor,

I would like to thank Dr. Beysard and colleagues for bringing these other two published examples of Foley catheter balloon tamponade use to our attention, along with their recent use of this method. We would welcome their experience and input as part of the proposed Delphi project, along with that of all clinicians with experience

managing these injuries. Through combined experience and literature assimilation we hope to generate the most clinically valuable consensus statement possible.

### Abbreviation

PNI: Penetrating neck injuries.

### Acknowledgements

None.

### Authors' contributions

MP, NB, and VD designed the project and drafted the work. NB obtained the written consent from the patient. MP, NB, PNC, TZ and VD revised final work. All authors approved the final version of the manuscript.

### Funding

There is no source of funding for this manuscript.

### Availability of data and materials

Not applicable.

### Declarations

### Ethical consent and consent to participate

Not applicable.

### Consent for publication

Consent form was obtained from the patient whose case and picture are discussed in the present manuscript.

### Competing interests

The authors declare that they have no competing interests.

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Received: 19 October 2021 Accepted: 2 November 2021

Published online: 04 December 2021

### References

1. Simpson C, Tucker H, Hudson A. Pre-hospital management of penetrating neck injuries: a scoping review of current evidence and guidance. *Scand J Trauma Resusc Emerg Med.* 2021. <https://doi.org/10.1186/s13049021009494>.
2. Jose A, Arya S, Nagori S, Thukral H. Management of life-threatening haemorrhage from maxillofacial firearm injuries using Foley catheter balloon tamponade. *Craniofacial Trauma Reconstr.* 2019;12:301–4.
3. Himmler A, Calzetta ILM, Potes A, Puyana JC, Barillaro GF. The use of a urinary balloon catheter to control haemorrhage from penetrating torso trauma: a single-center experience at a major inner-city hospital trauma center. *Am Surg.* 2021;87:543–8.
4. Scriba M, McPherson D, Edu S, Nicol A, Navsaria P. An update on Foley catheter balloon tamponade for penetrating neck injuries. *World J Surg.* 2020. <https://doi.org/10.1007/s0026802005497z>.
5. Hodgetts TJ, Mahoney PF, Russel MQ, Byers M. ABC to <C>ABC: redefining the military trauma paradigm. *Emerg Med J.* 2006;23:745–6.

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