

Peer Review File

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Review Comments

Reviewer A

The authors have provided a narrative review in learning curve of robotic surgery in pediatrics.

- 1) This is an excellent review and well written!
- 2) Table 1 is only partially visible and I am unable to read it

Reply A

Thank you very much for your comment, the table has been reformatted.

Reviewer B

Authors performed a review of the current literature on the learning curve of pediatric robotic surgery.

Introduction - authors initially discuss the learning curve of robotic surgery as a single entity, however each procedure is likely to have its own unique learning curve depending on the users experience and operation complexity.

Methods and Results section should be expanded - describe search strategy, inclusion/exclusion criteria in more detail. Who screened, how many articles screened, how many authors screened.

More details on the study population would be appreciated, average age of patient? Surgeon experience? Was any statistical analysis performed or were total operative times simply averaged? Any risk of bias assessment? Were PRISMA guidelines followed? How was operative time defined in each article? Were learning curves in each reported ie the number of cases to become competent? Our group has similar discussions and opted to use CUSUM analysis as a more comprehensive analysis of surgeon progression (10.1016/j.jpuro.2022.07.021). Given that 12/20 explored RALP it may be more worthwhile further dissecting these articles to provide a more in depth assessment of the LC of this one procedure.

Table 1 was cut off and illegible on my review.

Discussion - readability could be improved. How do the authors propose to properly define learning curve - Is a scatter plot of operative time a sufficient marker or should there be some statistical bench mark or test to assess the surgeon after which point the

surgeon is deemed "competent". Authors fail to convince was all pediatric robot cases can be analyzed together as opposed to procedure specific analysis.

Reply B

Thank you very much for your thoughtful insight. We have taken into consideration many of your critics and adapted as follows:

-The introduction has been modified, however the point was to underline the lack of standardization **the** current literature has when **establishing** a LC for every procedure, that is a **common** point we'd like to stress in our introduction when considering LC as a single entity

-Materials & methods section has been expanded, mentioning more details. However, as this is not a systematic review but a narrative one, PRISMA guidelines were not mentioned. When an article mentioned a number of procedures estimated to reach it was specified into the discussion (i.e. line 131). Average age was not considered as it varies a lot with the specific pathology.

-Table 1 was **modified** and sent to the editor **in** a different file

-The problem showed by our review was that, indeed, there is still lack of possibility to employ statistical significance due to the lack of clear definitions when it comes to measurements. CUSUM analysis offers a very valuable alternative as already considered by Cundy et al. in 2015, but still very few papers have showed such promising analysis method; however we have underlined the importance of multivariate analysis in our discussion (ll 126-132)

Reviewer C

The authors present a review article on the learning curve and training in pediatric robotic surgery. The manuscript is well-written, concise and definitely of interest for the readers of this Journal. Nevertheless, some minor issues need to be addressed before the paper could be considered for publication.

1) It would be interesting to add more references throughout the introduction and discussion sessions to support the statements

2) Methods: Inclusion/exclusion criteria for the papers selected should be added

3) The paper has mainly focused in robot-assisted pediatric surgery in the context of general surgery. However, there have been reports/ case series of the application of robot-assisted surgery in other specialties, such as in pediatric neurosurgery. Please refer to the papers below. The authors may consider expanding the topic or at least mentioning it, since it also involves issues regarding learning curve, costs, with similar pros and cons.

Robot-assisted procedures in pediatric neurosurgery.

De Benedictis A, Trezza A, Carai A, Genovese E, Procaccini E, Messina R, Randi F, Cossu S, Esposito G, Palma P, Amante P, Rizzi M, Marras CE.

Neurosurg Focus. 2017 May;42(5):E7. doi: 10.3171/2017.2.FOCUS16579.

PMID: 28463617

Robot-assisted stereotactic biopsy of pediatric brainstem and thalamic lesions.

Gupta M, Chan TM, Santiago-Dieppa DR, Yekula A, Sanchez CE, Elster JD, Crawford JR, Levy ML, Gonda DD.

J Neurosurg Pediatr. 2020 Dec 25;27(3):317-324. doi: 10.3171/2020.7.PEDS20373.

PMID: 33361479

Targeting accuracy of robot-assisted deep brain stimulation surgery in childhood-onset dystonia: a single-center prospective cohort analysis of 45 consecutive cases.

Furlanetti L, Ellenbogen J, Gimeno H, Ainaga L, Narbad V, Hasegawa H, Lin JP, Ashkan K, Selway R.

J Neurosurg Pediatr. 2021 Apr 16;27(6):677-687. doi: 10.3171/2020.10.PEDS20633.

PMID: 33862592

4) The discussion session may be expanded addressing issues such as availability of robot-assisted surgery worldwide, costs for acquisition of the robotic console and of the procedures themselves, pros and cons in comparison to alternative techniques (laparoscopic etc).

5) Table 1 was not available in the shared pdf file

Reply C

Thank you very much for your interesting observation, we have taken into account your suggestions and the article has been modified as follow:

- 1) More references have been added
- 2) The paragraph has been expanded and a search strategy summarized table has been added.
- 3) Different robotic systems have been cited in the introduction. However, due to the big difference between these models and the ones used in pediatric general surgery, they were not considered in our analysis.(pg 3/ L 68-71)
- 4) Issues listed have been mostly mentioned in the introduction, comparison between robotic and laparoscopic/open surgery is not the main focus of this review. (pg2 / L 36-46)
- 5) Table 1 has been re-formatted