



### Systematic Review Search Strategy

Review title: A quantified comparison between robotic and open partial nephrectomy regarding the level of surgical precision through the formulation of a novel variable. A meta-analysis of comparative studies accompanied by sensitivity analysis.

#### Review team:

- Sotirios Artsitas ([sotbike@hotmail.com](mailto:sotbike@hotmail.com)): Hippokration General Hospital, Vasilisis Sofias Str. 114, Athens, Greece, Postal Code: 11527, 1<sup>st</sup> Propaedeutic Department of Surgery, School of Medicine, National and Kapodistrian University of Athens, tel. number: +30 6945824838, ORCID ID: 0000-0002-1605-5028.
- Dimitrios Artsitas ([dartsitas@hotmail.com](mailto:dartsitas@hotmail.com)): KAT Hospital, Nikis Str. 2, Kifissia, Athens, Greece, Postal Code: 14561, 2<sup>nd</sup> Department of Orthopaedics, ORCID ID: 0000-0002-6626-7512.
- Ioanna Segkou ([ioannasegk@gmail.com](mailto:ioannasegk@gmail.com)): Hippokration General Hospital, Vasilisis Sofias Str. 114, Athens, Greece, Postal Code: 11527, 2<sup>nd</sup> Department of Internal Medicine, School of Medicine, National and Kapodistrian University of Athens, ORCID ID: 0000-0002-3510-0904.
- Irene Koronaki ([koronaki.irene@gmail.com](mailto:koronaki.irene@gmail.com)): Professor at National Technical University of Athens (NTUA), Zografou Campus, Heroon Polytechniou Str. 9, Athens, Greece, Postal Code: 15780, Laboratory of Applied Thermodynamics, School of Mechanical Engineering, National Technical University of Athens.
- Konstantinos G. Toutouzas ([tousur@hotmail.com](mailto:tousur@hotmail.com)): Professor at National and Kapodistrian University of Athens (NKUA), Hippokration General Hospital, Vasilisis Sofias Str. 114, Athens, Greece, Postal Code: 11527, 1<sup>st</sup> Propaedeutic Department of Surgery, School of Medicine, National and Kapodistrian University of Athens.
- George C. Zografos ([gzografo@med.uoa.gr](mailto:gzografo@med.uoa.gr)): Professor at National and Kapodistrian University of Athens (NKUA), Hippokration General Hospital, Vasilisis Sofias Str. 114, Athens, Greece, Postal Code: 11527, Director and Chairman at 1<sup>st</sup> Propaedeutic Department of Surgery, School of Medicine, National and Kapodistrian University of Athens.

The search strategy will be conducted by Sotirios Artsitas, Dimitrios Artsitas, and Ioanna Segkou. Irene Koronaki, Konstantinos G. Toutouzas, and George C. Zografos held a supervisory position during the formulation of the strategy. The latter will be updated as needed based on database-specific, language or other requirements within the following databases:

- MEDLINE (PubMed)
- Cochrane Central Register of Controlled Trials (CENTRAL)
- Google Scholar (Google LLC)

For non-indexed conference proceedings, the review team will search relevant conference proceedings announcements and websites. Additionally, the review team will hand-search bibliographies of relevant randomized controlled trials (RCTs), non-randomized observational comparative studies, systematic reviews, narrative reviews, and meta-analyses found, as well as relevant citations bibliographies of the articles included in the review. For maximum transparency

regarding the literature search process, all results in references will be integrated and analyzed within "Sysrev" online platform framework (<https://sysrev.com>).

The novelty of this study lies in the fact that a new measure is to be formed as a quotient of two original variables, already available in the articles that are to be considered as eligible for analysis. Therefore, by utilizing statistics theory, from the mean and standard deviation of the original variables, estimates are to be configured as for the corresponding parameters related to the derivative ratio. Based on the physical properties of this quantitative measure, it can be argued to be able to express the level of surgical precision provided through each of the two approaches under comparison, in partial nephrectomy procedures. Finally, with the mean and the standard deviation being available with regard to the novel variable, it will be possible to perform a meta-analysis with an appropriate sensitivity analysis.

We will not include or exclude studies based on the length of the studies, patient populations under comparison, follow-up periods or publication dates, and only content published or available in English will be included. Bibliographic data from systematic reviews, meta-analyses, as well as narrative reviews will be utilized appropriately. However, the above will not be included in the final sample of studies from which the necessary quantitative data will be drawn. Studies with specialized patient populations such as pediatric patients and patients with a solitary kidney are also to be excluded. To ensure the content accurately reflects research reported within the review's proposed time frame, bimonthly search alerts will be established for each database and monitored after the initial search, and eligible articles will be added to our review through the data extraction phase. For the thorough control of the above process, records of reviewed references will be kept, which will be compiled monthly through "Sysrev".

<b>MEDLINE (PubMed)</b>	
1	(((robotic[Title] OR (robot-assisted[Title])) AND (open[Title])) AND (partial[Title])) AND (nephrectomy[Title])
2	(((robotic[Title] OR (robot-assisted[Title])) AND (open[Title])) AND (nephron[Title])) AND (sparing[Title])
3	#1 AND #2
<b>Google Scholar (Google LLC)</b>	
4	allintitle: robotic, open, partial, nephrectomy
5	allintitle: robot-assisted, open, partial, nephrectomy
6	allintitle: robotic, open, nephron, sparing
7	allintitle: robot-assisted, open, nephron, sparing
8	#4 AND #5 AND #6 AND #7
9	#3 AND #8
<b>CENTRAL (Cochrane Central Register of Controlled Trials)</b>	
10	(((robotic[Title] OR (robot-assisted[Title])) AND (open[Title])) AND (partial[Title])) AND (nephrectomy[Title])
11	(((robotic[Title] OR (robot-assisted[Title])) AND (open[Title])) AND (nephron[Title])) AND (sparing[Title])
12	#10 AND #11
13	#9 and #12