AB085. SOH24AB_080. Transferability of skills across robotic surgery platforms: a scoping review

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Background: New robotic consoles continue to be introduced. Due to the relative industry monopoly to date, there is a paucity of curricula validated on a multi-platform basis. The high hazard environment of surgery is exacerbated due to the non-standardised interoperability of robotic systems. The aim of this review is to assesses the evidence available regarding the transferability of skill from one robotic system to others.

Methods: A scoping review exploring the Medline and Cochrane Databases was conducted. Full texts were reviewed and appraised. Selected articles were eligible for inclusion if they studied the transferability of skill across robotic platforms. Data was then extracted and themed based on content analysis.

Results: After removal of duplicates, 253 papers were screened according to the eligibility criteria. Fifty full text articles were reviewed and three studies were eligible for inclusion. Employing manual reference harvesting one further paper was included. Data pertaining to technical, non-technical skill, and learning curve were explored. NVIVO software was used to augment assessment.

Conclusions: A dearth of validated evidence exists on transferability of skills between robotic surgical systems. The limited publications identified suggest novices operate at a similar performance level between platforms. Experts on a prior console transfer some but not all of their proficiency. Experts still have a learning curve on the new system. Safety metrics appear comparable. Surgeons describe the move to a new console as challenging regardless of prior experience, but requiring the same unique skill set. Future research needs to address what extent technical and non-technical skills transfer between robotic platforms.

Keywords: Robotic surgery; transferability; multi-platform; competency; skill