

Surprisingly long learning curve for surgeons operating on oesophageal cancer

March 8 2016

According to a major Swedish cohort study from researchers at Karolinska Institutet in Sweden and Imperial College London, a surgeon who operates on oesophageal cancer must have performed 60 operations to prevent any lack of experience adversely affecting the long-term survival of the patients. The finding, which is published in the *Journal of Clinical Oncology*, has potential significance for clinical practice.

While it is well known that patient survival after oesophagectomy is related to the surgeon's experience of the procedure, no figure has been put on how many [operations](#) are needed for the surgeon to attain the competence needed for achieving optimal results as regards patient survival. The new study is the first to examine the surgeon's learning curve in relation to short and long-term fatality rates.

"What the study shows us is that a surgeon needs to perform 15 operations to obtain stable results as regards survival during the first months following the operation, and a full 60 before he or she achieves optimal results on long-term survival," says the chief investigator Jesper Lagergren at Karolinska Institutet's Department of Molecular Medicine and Surgery, and also affiliated to the Division of Cancer Studies at King's College London. "What surprised me was that the learning curve for optimising the long-term prognosis for tumour relapse was so long and the effect so pronounced."

Jesper Lagergren's research team has in collaboration with colleagues at Imperial College London examined a Swedish cohort of 1,821 patients

operated on for [oesophageal cancer](#) in Sweden between 1987 and 2010 by 139 different surgeons. Using data on which surgeons performed which operations, the researchers studied their learning curves and found that even though the surgeons were experienced with other procedures when starting to perform oesophagectomies, the turning point for their learning curves for a stable 5-year fatality rate was at 60 operations.

The form of surgery studied is relatively uncommon with some 150 such operations performed a year in Sweden. The new finding indicates that it is worth concentrating oesophageal [cancer](#) operations to a small number of [surgeons](#) with a particular interest in this kind of surgery.

"Our results can guide [clinical practice](#) and indicate that a properly organised mentorship and training programme should be introduced for oesophageal cancer surgery," adds Professor Lagergren, who is himself an oesophageal cancer surgeon. "Surgeons who start operating on oesophageal cancer should perform many operations together with a more experienced oesophageal cancer surgeon before they begin to operate independently."

More information: S. R. Markar et al. Surgical Proficiency Gain and Survival After Esophagectomy for Cancer, *Journal of Clinical Oncology* (2016). [DOI: 10.1200/JCO.2015.65.2875](https://doi.org/10.1200/JCO.2015.65.2875)

Provided by Karolinska Institutet

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