STUDY PROTOCOL

**1. Title**

*“A survey on the current perioperative analgesia practice among thoracic anaesthesiologists in Australia and New Zealand”*

*Short title “*Survey of current thoracic analgesia practice in ANZ “

**2. Investigators**

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**3. Background**

Thoracic surgery induces severe postoperative pain and has traditionally depended on thoracic epidural and opioids in the management of pain in the perioperative period. The increasing availability and use of ultrasonography to identify fascial layers has led to the development of several newer techniques for analgesia of the chest wall with promising results (1). Also, recent studies have hypothesized that opioids may result in an increase in cancer metastases (2) resulting in a trend towards avoiding opioids while utilising more regional techniques.

However, it is not clear to what extent the results of these studies have changed daily clinical practice. Literature search shows that studies looking at perioperative practice in thoracic patients were conducted by Cook et al (3) 1997 (post-thoracotomy patients, 24 anaesthetists in Australian Hospitals) and Kotemane (4) 2010 (major thoracic surgery, 240 anaesthetists, United Kingdom). The only recent survey available by Shanthanna (5) 2018 looked only at video -assisted thoracoscopic surgery (VATS) procedures among anaesthetists in Canada (response rate only 19%). We have limited information on the current trends in analgesia management for the patients undergoing thoracic surgery in Australia and New Zealand (ANZ)

We hypothesize that despite the emergence of other regional blocks, thoracic epidural would still be the choice of the majority (> 50%) of the anaesthetists for open thoracotomy. The purpose of this cross-sectional survey across thoracic anaesthetists across ANZ is to understand the current practice and preferred mode of analgesia as well as the perception of anaesthetists towards various modalities of pain management of the patients undergoing thoracic surgery. In addition, it would also act as a benchmark for future studies especially with regards to prevalence of opioid-sparing anaesthetic techniques that might become a standard of practice in the future.

**4. Aims**

To understand the current trends in analgesia management for patients undergoing thoracic surgery and delineate some factors that might be contributing to the methods selected.

**5. Study Design**

 Online survey

<https://survey.app.uq.edu.au/CDAEA1E7-3C77-4184-AF67-F31F3AFC19E5?test=true>

 Single group - test group only

 Methods to reduce bias –The Cardiac Thoracic Vascular Perfusion Special Interest Group (CTVP-SIG) of the ANZ College of Anaesthetists have agreed to distribute the study link to all its currently registered members. It is believed that majority of ANZ anaesthetists who are actively practising thoracic anaesthesia will be members of the SIG and this registry will be the most representative collection of study participants that could be collected. An email describing the aim and methods of the study and an online link to the survey will be then sent to each anaesthetist through the SIG requesting their kind participation in the survey.

To ensure maximum response rate another reminder email would be re-sent 4 weeks later to all people who were initially contacted.

The participants would be able to keep their individual identity anonymous as details like name are not included in the survey.

**6. Subjects/Patients**

 Thoracic Anaesthesiologists who are currently providing thoracic anaesthesia in ANZ and are currently members of the CTVP-SIG.

•Inclusion criteria

- All anaesthetists who provide perioperative anaesthetic care of patients undergoing thoracic surgeries in Australia and New Zealand and are currently members of the CTVP-SIG.

•Exclusion criteria

-Anaesthetists who have not practised thoracic anaesthesia in the previous one year

-Anaesthetists who are currently not members of the CTVP SIG

• Sample size: The Cardiac Thoracic Vascular Perfusion Special Interest Group (CTVP-SIG) registry of all its currently registered members will provide the denominator to understand the survey response rate and thereby find out how reflective the study is of current practice.

The result will be analysed descriptively with the participant characteristics and outcomes reported using counts and percentages.

**7. Measurements**

The data collected is as shown in the attached hard copy of the online Survey.

 The survey is broadly divided into 4 sections

Section 1- Demographic data to identify the place and type of work

Section2- relates to the overall principle of anaesthetic practice

Section3- intraoperative management

Section 4- postoperative management

**8. Interventions/Procedures**

 Not required

**9. End-points**

 Not applicable

**10. Study Plan**

 All participants in the study will receive the online questionnaire.

**11. Analysis**

 The responses received will be collated and the data collected will be entered in an Excel spreadsheet and analysed using computerised statistical analysis programs. The data will be discussed with a statistician and the appropriate information will be derived.

**12. Ethical Issues**

 **Participant study information & method of obtaining informed consent**:

An email describing the aim and methods of the study and an online link to the survey will be sent to each anaesthetist through the CTVP-SIG requesting their kind participation in the survey. Implied consent is understood if the participant completes and submits the online survey form.

•**Contact details** of the primary investigators will be available in the email provided to allow the participant to clarify anything if required.

• Once submitted it would be difficult to re-identify an individual participants response and hence there will not be an option for withdrawal from the study once the survey is completed and submitted online.

•**Potential for undue influence**: The participant will be informed that participation in the study is purely voluntary and that there will be no foreseeable consequence if they take part in the study or not. It will be conveyed to the participants that there is no duality of interests in organising the study other than for furthering medical knowledge. The study is not funded by any drug or device manufacturing companies and there will be neither payments nor costs to participants.

• **Risk mitigation**: The online survey is not believed to result in any risk to participants.

•**Selection of participants**: The Cardiac Thoracic Vascular Perfusion Special Interest Group (CTVP-SIG) of the ANZ College of Anaesthetists have agreed to distribute the study link to all its currently registered members. It is believed that majority of anaesthetists who are actively practising thoracic anaesthesia will be members of the SIG and this registry will be the most representative collection of study participants that could be collected. An email describing the aim and methods of the study and an online link to the survey will be then sent to each anaesthetist through the SIG requesting their kind participation in the survey.

• **Confidentiality of data**: all data collected will be stored in a de-identified manner for subsequent peer review. The electronic data generated from the study will be stored in an encrypted flash drive stored in the locked cupboard inside the office of the principal investigator at TPCH. All data would be stored for 15 years per national data management policy.

• **Review by Ethics Committee**; appropriate ethics committee approval and subsequent guidance will be sought before the start of the study. The entire study will be conducted as per TPCH research and ethics guidelines.

• Amount of **payment/reward** for participation: Nil. Participation is purely voluntary.

**13. Resource Requirements.**

 The resource implications to the host organisation: The survey is created through the survey engine provided by the University for Queensland for the researchers who are all faculty members of the university. Any other additional cost expected is minimal due to the online nature of the survey.

 The timetable/schedule of the research: The expected study duration is 3 months.

 Costs: Nil significant additional costs expected as is an online survey only.

**14. Supervision**

 The 3 primary investigators will ensure that all the various steps in conducting an online survey-based study are carried out according to the study methods submitted for ethics approval.

**15. Dissemination and Outcome**

The findings of the study will be initially discussed at the department research meeting followed by a general department meeting. The peer review and discussion will help the investigators to write up the study result with an aim to publish in an international journal of repute for dissemination of knowledge among a wider audience. The findings will also be presented at regional or national anesthesia meeting to generate wider awareness.

 The primary investigators believe that the data generated will help them formulate future multinational studies to understand and compare with global practices.

**16****. References**

1. Chin KJ. Thoracic wall blocks: from paravertebral to retrolaminar to serratus to erector spinae and back again–a review of the evidence. Best Practice & Research Clinical Anaesthesiology. 2019 Apr 5.
2. Maher DP, Wong W, White PF, McKenna Jr R, Rosner H, Shamloo B, Louy C, Wender R, Yumul R, Zhang V. Association of increased postoperative opioid administration with non-small-cell lung cancer recurrence: a retrospective analysis. British journal of anaesthesia. 2014 Jul 1;113(suppl\_1):i88-94
3. Cook TM, Riley RH. Analgesia following thoracotomy: a survey of Australian practice. Anaesthesia and intensive care. 1996 Oct;24(5):520-4.
4. Kotemane NC, Gopinath N, Vaja R. Analgesic techniques following thoracic surgery: a survey of United Kingdom practice. European Journal of Anaesthesiology (EJA). 2010 Oct 1;27(10):897-9.
5. Shanthanna H, Moisuik P, O’Hare T, Srinathan S, Finley C, Paul J, Slinger P. Survey of postoperative regional analgesia for thoracoscopic surgeries in Canada. Journal of cardiothoracic and vascular anesthesia. 2018 Aug 1;32(4):1750-5. (suppl\_1):i88-94.