Evidence Synthesis Ireland Fellowship Scheme 2021
Review Identification Form

Review Centre/Group Mentor

Mentor: Norio Watanabe, Director, Cochrane Japan, Kyoto University **Lead contact:** Yuto Makino

Review title

Ultrasound guidance versus anatomical landmarks for neuraxial anesthesia in adults

Review type

Cochrane review of effectiveness (intervention) – Cochrane Anaesthesia

Review details

Summary:

Background: Neuraxial anesthesia is sometimes difficult to perform with anatomical landmarks only. Neuraxial anesthesia guided by ultrasound may be a useful way to increase success rates. Ultrasound allows the operator to visualize the local anatomy of interest and the size of important structures and direction to help determine the depth and direction of needle insertion.

Review objectives: To assess the clinical efficacy and safety of the ultrasound‐guided method compared with the anatomical landmark method for neuraxial anesthesia in adults.

PICO:

Participants / population: We will include all adult participants (≥ 18 years old) who require neuraxial anesthesia for surgical anesthesia (alone or in combination with general anesthesia) or postoperative analgesia or for labor. We will exclude children and studies in which neuraxial anesthesia was used to treat chronic pain.

Intervention: We will include studies in which ultrasound guidance was compared with the anatomical landmarks when performing neuraxial anesthesia. Ultrasound guidance means both preprocedural and real-time techniques.

Comparison: Comparison is using only the anatomical landmarks when performing neuraxial anesthesia.

Outcomes and adverse effects:

1. First-pass success rate of reaching the needle into the target space

2. The overall pass success rate of reaching the needle into the target space
3. Number of successful of neuraxial anesthesia
4. Time needed for procedure (seconds if available)
5. Patient satisfaction
6. Pain during the procedure
7. Adverse events: bloody tap, back pain, headache, radiculopathy, spinal hematoma; lasting neurological injury (lasting more than three months), life‐threatening events; fatal events**.**

Risk of bias 2.0 will be used

Current Status:
Protocol development

Review current status

Protocol development

Any specific/desirable requirements for fellow (e.g. clinical expertise, methodological expertise)

Flexibility is required given time difference of Host Centre from Ireland.

Estimated start and completion dates

We are currently developing the protocol. We expect to start the review in August 2021. We expect to complete the review in July 2022.