



Orthopaedic Division
CANADIAN PHYSIOTHERAPY ASSOCIATION



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Advanced Practical Exam (APE) Examiners' Corner Summary Document

2010 ongoing

CONTENT:

The following document contains a summary of comments regarding the Advanced Practical Examination (APE) from the past several years i.e. *APE Summary 2010-onward*.

Each year following the APE, the document will be reviewed and revised based on the feedback from the Examiners and Chief Examiners.

PURPOSE:

The purpose of the document is to provide guidance for APE examination preparation and instruction for candidates, mentors and instructors.

ASSUMPTIONS:

Candidates are strongly advised to read through the *Examiners' Corner: Intermediate Practical Examination (IPE)* as this document contains content related to both the IPE and APE examination, especially the sections relating to:

- a) general comments in assessment and treatment
- b) neurodynamic testing
- c) neuroconductivity testing
- d) muscle testing (length, strength as well as recruitment)
- e) anatomy
- f) exercise prescription
- g) all comments related to the spinal regions (assessment and treatment)

GENERAL COMMENTS:

Candidates are reminded that the examination will include relevant theoretical and practical material inclusive from the Level 1 to Level 5 curriculum courses. The exam includes medical screening questions, particularly as they pertain to safety, indications/contraindications for manipulation, differential diagnosis questions and relevant pathology questions. Candidates should therefore not think of this exam as technique-based only.

Throughout the exam candidates are reminded to treat the models as if they are patients, using the appropriate dialogue and instruction as they perform their techniques.

Thank you to the mentors and instructors and best wishes to all candidates.

TREATMENT:

Mobilizations/Manipulations:

Spinal Regions:

- **Craniovertebral region:**

- Candidates are reminded to ensure that the manipulation thrust is delivered at the barrier rather than at mid- range. It is important to maintain the localization.
- It is important to have efficient body mechanics in all manipulation techniques. When performing distraction techniques at the OA joint, it is acceptable to use just the arms or the therapist's body to ensure that the soft tissue slack is taken up.
- Consider doing OA distraction technique in side lying when the optimal vertical vector is not possible to attain in supine.
- At the OA joint, make sure to engage the side flexion component of the barrier and not to over-rotate.
- For the osteokinematic technique for unilateral OA flexion, ensure that the axis for side flexion is craniovertebral and not mid cervical. It requires the combination of both vectors (side flexion and flexion) through a 2 handed technique to create the posterior glide at the restricted joint.
- Manipulation techniques at the AA joint should avoid the use of any extension component.
- When performing the side-lying AA posterior glide manipulation, thrusting C2 anteriorly, it is important to apply the anterior thrust along the plane of the joint.
- When performing manipulation of the AA joint, ensure that the barrier of rotation has been achieved. For an anterior glide technique ensure that your contact point is in line with the lateral joint to achieve the appropriate vector i.e. contact point should not be too close to the midline.
- When performing the anterior glide manipulation at the AA joint, candidates are advised to maintain stabilization of the head and neck with the non-thrusting arm.

- **Cervical & Cervico-thoracic region:**

- Candidates should be familiar with terminology used to describe motion restrictions in both an osteokinematic or arthrokinematic description. (e.g. decreased flexion and right side flexion at C5/C6 would be a decreased unilateral flexion on the left at C5/C6 and/or anterior/superior glide of C5 on C6).
- With mid cervical spine manipulations, localization and maintaining the barrier prior to the thrust are key components to a successful technique.
- As with all manipulations, ensure the correct plane of the joint segment in question is being considered i.e. right mid cervical unilateral extension must have a posterior, inferior and medial vector.
- Candidates are reminded to ensure that the thrust is delivered at the barrier rather than at mid- range. It is important to maintain the localization.
- For the mid-cervical spine, ensure that the joint segment in question is at the end of the available physiological passive ROM prior to thrust. Ensure that the sagittal plane movements of flexion/extension are also engaged as opposed to only side-flexion.
- When manipulating the upper mid cervical spine, ensure that the CV lock is maintained as the barrier of the joint to be manipulated is achieved.
- For the osteokinematics flick technique, the candidate must be careful with their application of lateral translation towards the restricted side as this can lead to unwinding the previously applied locking of the cervical spine.
- The indirect flexion technique is a two-handed technique encouraging a side flexion motion, with the majority of the force on the indirect side. The other hand is not passive but rather a facilitating hand to find the appropriate barrier of flexion at the target joint.
- When demonstrating an indirect technique for the cervical spine it is important to be at the barrier for the affected side. For example, when doing an IMP on the left to induce a SAL on the right side, the right sided joint must be positioned at the barrier of flexion.
- Indirect extension techniques in the mid-cervical spine are not recommended because they tend to combine rotation with extension, a combined position that is best avoided for safety reasons.
- With the 1st rib inferior glide manipulation, ensure that the thrusting hand is lateral over the 1st rib and there is a small anterior vector applied to slightly distract the rib away from the TP of T1 prior to applying the inferomedial thrust.
- With the roll-down distraction technique of the 1st rib, ensure that the scapula is out of the way of the fixation hand.

- **Thoracic region:**

- Watch that the head/neck is supported when doing the supine roll down techniques for the thoracic spine or CT junction.
- Unilateral extension manipulations should include an ipsilateral side flexion/extension barrier. The therapist's body should be aligned in the direction of the thrust.
- Unilateral flexion manipulations should include a contralateral side flexion/flexion barrier and ensure that the flexion barrier is maintained.
- During the seated thoracic manipulations, ensure sufficient stabilization from the therapist to maintain the towel fixation.
- Candidates should be familiar with the possible side effects of thoracic manipulation and the mechanisms involved.

- **Thoracolumbar junction region:**

- The thoracolumbar junction can be manipulated into extension, if it has been determined there is no mortice joint, minimizing the rotation component and emphasizing the side flexion component. Candidates are directed to review the audio PowerPoint presentation on the thoracolumbar junction on the <https://www.orthodiv.org/> website.
- In performing manipulations at the thoraco-lumbar junction, it is important to utilize the upper and lower levers to assist in reaching the correct barrier. Avoid producing excessive axial rotation of the lower lever segments through over-rotation of the pelvis. The thrust should be delivered through the arm contact, as applying forces with only the hands often generates inadequate force.
- The manipulations at the thoracolumbar junction are most appropriate when the side-bending component is emphasized, rather than the rotatory component.
- When locking from below for a thoracolumbar manipulation, it may be useful to re-engage the barrier of flexion or extension after the bottom leg has been straightened out.

- **Lumbar/Pelvis region:**

- Candidates are reminded to ensure localization and deliver the thrust at the barrier.
- With lumbar spine manipulations, ensure that there is a stabilization arm and a thrusting arm.
- For flexion and extension techniques in the lumbar spine, candidates are reminded to emphasize the side bending component inducing the superior or inferior glide during manipulation as opposed to rotational components.
- For prone sacral nutation or counternutation manipulation techniques, a towel is sometimes insufficient to stabilize the ilium (ASIS). The ilium can often be more effectively stabilized using the operator's hand or a wedge.
- When using a prone technique to restore unilateral sacral nutation, ensure that the thrust is applied on the base of the sacrum unilaterally not globally on the sacrum.

Note the following manipulations have been moved to Appendix of the Level IV/V Manuals: (*i.e. these techniques will not be mandatorily taught on the NOD Level 4 and Level 5 courses*)

- anterior glide OA manipulation in sitting
- posterior glide OA manipulation side lying relative through C1
- anterior glide AA manipulation in sitting or side lying relative through C2
- posterior glide AA manipulation in side lying through C2
- mid c-spine distraction manipulation from below
- unilateral C-spine flexion relative through caudal vertebra
- isolated ant/post U joint manipulation
- supine unilateral mid rib distraction modification for cranial and caudal glides
- lumbar pure rotation sagittal gap manipulation

Locking:

- **Cervical Spine Region:**

- o When locking in the cervical spine, particularly for the osteokinematic flick technique, remember to leave the affected level in neutral. Then engage the physiological barriers at that joint. Take up lateral translation below as needed.