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Lumbar Puncture 2009-2

<p>Question 5:</p> <p>Discussion: LP</p> <p>Layers penetrated</p>	<p>Name the structures your needle would pass through when performing a lumbar puncture using a midline approach</p> <p>At what level would you do a LP in an adult and why?</p>	<p>Skin/ subcutaneous tissue/supra-spinous ligament/ inter-spinous ligament/ ligamentum flavum/epidural space + veins/ dura + attached arachnoid/ subarachnoid space (= CSF)</p> <p>Transcrystal plane ~L4</p>	<p>2/3 ligaments + know that dura is before SA space and CSF is in the subarachnoid space</p> <p>Extra info</p>
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Lumbar Puncture 2006-1

TOPIC: Lumbar puncture _____ **NUMBER:** ____ **Th AM 5f**

OPENING QUESTION	Describe the anatomical layers passed by a needle in a mid line lumbar puncture	COMMENTS
POINTS REQUIRED	1 Skin	
	2 Subcutaneous tissue	
	3 Supraspinous ligament	
	4 Interspinous ligament	
	5 Ligamentum flavum	
	6 Epidural space	
	7 Dura mater	6 of 8
	8 Arachnoid mater	
PROMPTS		
SECOND QUESTION (if needed)	Describe some of the characteristics of the ligaments passed.	
POINTS REQUIRED	1 Supraspinous: Continuous down the spine. Strong. White Lax in extension and taught in flexion	
	2. Interspinous: Weak ligament	
	3 Flavum: Most important ligament. Attaches to front of the upper lamina and back of the lower lamina	Must know this criterion to pass
PROMPTS		
THIRD QUESTION (if needed)	What are the surface anatomical landmarks when performing a lumbar puncture	
POINTS REQUIRED	A competent answer to pass.	
PROMPTS		

Lumbar Puncture 2003-1

TOPIC: Spinal cord _____ **NUMBER:** 5AM _____

OPENING QUESTION	DESCRIBE THE STRUCTURES THAT YOUR NEEDLE WOULD CROSS IN THE MIDLINE WHEN PERFORMING A LUMBAR PUNCTURE	COMMENTS
POINTS REQUIRED	SKIN/SUBCUT SUPRASPINOUS INTERSPINOUS LIG FLAVUM EPIDURAL SPACE DURA SUBARACH/CSF	5 TO PASS
	2	
	3	
	4	
	5	
	6	
	7	
PROMPTS		

Lumbar Vertebrae 2015-1-A

Stem: A 10 yo boy presents with a headache and fever. We will start with Anatomy.			
TOPIC	QUESTIONS	KNOWLEDGE (essential in bold)	NOTES
Question 1 L-spine (bone) Subject: Anat LOA: 1	1. What type of vertebral body is this, outline its features? <i>Prompt: how is it different to other vertebra</i>	Lumbar. Large kidney shaped body. Transverse processes are long and slender. Vertebral foramen triangular, larger than thoracic/smaller than cervical. Spinous process is short, thick, hatchet shaped. Articular processes/facets extend vertically	Bold to pass 2 of 4 to pass
	2. What levels should a Lumbar Puncture be performed at, and what landmarks are used?	L 3-4, 4-5 or L 5-S1. Spinal cord ends at L2. Top of Iliac crests at L4 spinous process. Hence space above or below this avoids the cord.	2 levels + landmark to pass
	3. What structures does the needle pass through in order?	Skin/sub cut fat/supraspinous lig./interspinous lig./lig. flavum/epidural space/dura/subarachnoid space	5 of 8 to pass

Lumbar Vertebrae 2009-1

OPENING QUESTION	Identify the major features of this bone	COMMENTS
POINTS REQUIRED	1) Medially oriented facets, for flex/extension. no rotation	6/6 to pass
	2) Wedge shaped deep in front and shallow behind, although often not	
	3) Pedicles attached to upper half	
	4) Kidney shaped (thoracic are heart shaped)	
	5) Space for vert canal is triangular	
	6) Spinous process is horizontal	
	7) Mamillary process on articular process/accessory tubercle on transverse process	
PROMPTS		
SECOND QUESTION (if needed)	What factors are responsible for stability between adjacent lumbar vertebrae?	Address all 3 factors for pass
POINTS REQUIRED	1) Bony..intervert discs (not really boney), orientation of facets	
	2)Ligamentous..major include ant and post spinal ligaments/supraspinous/interspinous/intertransverse/ligamentum flavum	
	3) Muscular..thick mass of muscle both ant and post (erector spinae)	
PROMPTS	What are the ligamentous factors?	
THIRD QUESTION (if needed)	What layers will be passed through when performing a lumbar puncture?	
POINTS REQUIRED	1) Skin	5/6 for pass
	2) Subcut fat	
	3) Supraspinous ligament	
	4) Interspinous ligament	
	5) Ligamentum flavum	
	6)Extradural fat/Dura/Arachnoid	

Lumbar Vertebrae 2007-1

OPENING QUESTION	Identify the major features of this bone	COMMENTS
POINTS REQUIRED	1) Medially oriented facets, for flex/extension. no rotation	6/6 to pass
	2) Wedge shaped deep in front and shallow behind, although often not	
	3) Pedicles attached to upper half	
	4) Kidney shaped (thoracic are heart shaped)	
	5) Space for vert canal is triangular	
	6) Spinous process is horizontal	
	7) Mamillary process on articular process/accessory tubercle on transverse process	
PROMPTS		
SECOND QUESTION (if needed)	What factors are responsible for stability between adjacent lumbar vertebrae?	Address all 3 factors for pass
POINTS REQUIRED	1) Bony..intervert discs (not really boney), orientation of facets	
	2)Ligamentous..major include ant and post spinal ligaments/supraspinous/interspinous/intertransverse/ligamentum flavum	
	3) Muscular..thick mass of muscle both ant and post (erector spinae)	
PROMPTS	What are the ligamentous factors?	
THIRD QUESTION (if needed)	What layers will be passed through when performing a lumbar puncture?	
POINTS REQUIRED	1) Skin	5/6 for pass
	2) Subcut fat	
	3) Supraspinous ligament	
	4) Interspinous ligament	
	5) Ligamentum flavum	
	6)Extradural fat/Dura/Arachnoid	

Lumbar Vertebrae 2005-2

TOPIC: Bone: L2 vertebra; _____ **NUMBER: 2.3** _____

OPENING QUESTION	Would you please describe the bony features of this vertebra ?	COMMENTS
POINTS REQUIRED	1 Body*	* essential
	2 Neural arch; lamina* : pedicles*; intervertebral foramina	
	3 Vertebral/neural foramen	
	4 Spinous process*	
	5 Transv proc* (+for in cerv, +cost facets in thor, +costal element in lumbar)	
	6 Artic proc* sup & inf facet (zygapophyseal) jts	
	7 Groove for medial br post ramus spinal nerve with mamillary process above, and accessory tubercle below.	
SECOND QUESTION	Which area is this vertebra from and why?	
	Lumbar vertebra* No costal facets* No foramen in transverse process Triangular vertebral foramen Articular facets lie in AP plane Kidney shaped body Large Mamillary bodies	*essential plus two others
THIRD QUESTION	What movements occur at the lumbar spine?	
POINTS REQUIRED	1 Flexion & extension free*	*essential
	2 Lateral flexion good	
	3 Limited Rotation*	
PROMPTS		

Lumbar Vertebrae 2003-2

TOPIC 3	Lumbar Vertebra	
QUESTIONS AND ANSWERS	Demonstrate the bony features of this vertebra Prompt which vertebra if not identified	Body, transverse and spinous processes, pedicles, laminae, articular processes to pass
	Discuss stability at the intervertebral joints	Plane of joints, ligaments (capsule, ant and post long., spinous, transverse, flavum) to pass

<p>Question 2:</p> <p>BONE: Sacrum</p>	<p>a) Identify the features of this bone?</p>	<p>Sacrum consists of 5 fused bones and the coccyx 4 pairs of sacral foramina – S1-S4 anterior larger than posterior Ala Sacroiliac joint Superior Articular facets Lumbrosacral joint 5 Vertical lines – median, intermediate and lateral</p>	<p>Any 4 to pass</p>
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Stem: Moving onto Anatomy.			
Question 5 Thoracic vertebra (bone) Subject: Anatomy LOA: 1 <i>Moore's 7th edition</i> <i>Fig 1.4 & 1.5 p.77</i>	a) Identify this bone and demonstrate its bony features	a) Thoracic vertebrae Body, Pedicle, Transverse process Articular facets – Superior and inferior Costal facets – Superior/Inferior costal facets (head of rib); Transverse costal facet (tubercle of rib) Spinous process, Lamina Vertebral foramen and space for intervertebral foramina	Thoracic vertebra plus 5
	b) What movements occur at the thoracic vertebra?	b) Rotation , some lateral flexion, very limited flexion and extension	Bold
	c) List the ligaments responsible for the stability of the spine	c) Anterior longitudinal, posterior longitudinal, Supraspinous, Ligamentum Flavum	3 to pass

Thoracic Vertebrae 2011-

<p>1</p> <p>Q3. Bone Thoracic Vertebrae</p>	<p>Identify this bone, and demonstrate its bony features.</p> <p>What movements are possible at thoracic vertebrae?</p> <p>Demonstrate the ligaments.</p>	<p>Body, Pedicle, Transverse processes Articular facets - Superior and inferior Costal facets - Superior/Inferior costal facets [head of rib]; Transverse costal facet [tubercle of rib] Spinous process, Lamina Vertebral foramen and space for intervertebral foramina</p> <p>Rotation, some lateral flexion, very limited flexion + extension</p> <p>Ant longitudinal, Post longitudinal, Supraspinous, Ligamentum flavum</p>	<p>8/11</p>
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Thoracic Vertebrae 2011-1

<p>Question 2:</p> <p>Bone: Thoracic Vertebra</p> <p>LOA 1,2</p>	<p>i. <i>Identify this bone, and demonstrate its bony features.</i></p> <p>ii. <i>What movements are possible at thoracic vertebrae?</i></p> <p>iii. <i>Demonstrate the ligaments.</i></p>	<p>Body, Pedicle, Transverse processes, Articular facets - Superior and inferior Costal facets - Superior/Inferior costal facets [head of rib]; Transverse costal facet [tubercle of rib] Spinous process, Lamina Vertebral foramen and space for intervertebral foramina</p> <p>Rotation, some lateral flexion, very limited flexion + extension</p> <p>Ant longitudinal, Post longitudinal, Supraspinous, Ligamentum flavum</p>	<p>8/11</p> <p>Bold to pass</p> <p>3/4</p>
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Thoracic Vertebrae 2009-1

TOPIC	QUESTION	ESSENTIAL KNOWLEDGE	NOTES
Question 1:	Describe the features of this bone If required prompt: What region of the spine does this bone come from. Begin with the features.	Body: location of intervertebral disc attachments pedicles, facet joints including articular facets, laminae, articular facets for ribs on body and transverse process Processes: transverse and posterior Spinal canal	4 Major features to pass. Identify thoracic vertebra
Question 2:	How does this differ from vertebrae in other regions	Cervical: smaller body, larger canal, very small and often bifid spinous process, canal for vertebral artery, facet joints flatter, no ribs. Lumbar: larger body, smaller canal, spinous process square and more directly posterior, no articulations for ribs, more prominent transverse processes. Sacral: only mention to dismiss	Minimum 3 differences for each. Reasonable description of differences.

Thoracic Vertebrae 2007-1

OPENING QUESTION	Identify the major features of this bone	COMMENTS
POINTS REQUIRED	1 Body	6/9 for pass
6/10 to pass	2 Pedicle	
	3 Lamina	
	4 Transverse process	
	5 Vertebral Canal	
	6 Superior articular facets	
	7 Inferior articular facets 8 Costal facet (for tubercle) 9 Body articular facets (for head)	
PROMPTS	Demonstrate where the ribs articulate	
SECOND QUESTION (if needed)	Describe the ligamentous attachments between adjacent thoracic vertebrae	
POINTS REQUIRED	1 Ant Longitudinal	Mandatory
4/6 to pass	2 Posterior Longitudinal	Mandatory
	3 Supraspinous	And 1 other for pass
	4 Interspinous	
	5 Ligamentum flavum (between laminae:ant surface above to post surface below)	
	6 Intertransverse	
PROMPTS		
THIRD QUESTION (if needed)		
POINTS REQUIRED	1	
	5	
	6	
PROMPTS		

COMMENTS

Thoracic Vertebrae 2003-2

TOPIC 3		
QUESTIONS AND ANSWERS	Demonstrate the bony features of this vertebra (prompt – which level and why)	Body, Spinous process, transverse process, articular facets, facets for ribs, pedicle, laminae,-all to pass.
	What changes occur from upper to lower thoracic vertebrae.	Body heart to kidney shape, spinous process from long vertical to short horizontal, Facets on transverse process concave to flat, costal facets on body from demi to single on 10,11,12, spinal canal from round to triangular-p 2/5 to pass.