C6L31 - Ashley Hay

(0:05 - 0:21)

Hi, welcome to course six, the last course of this for you. So that's exciting, we are almost done. So we're gonna start off with thoracic and pulmonary surgery, along with some additional surgical techniques.

(0:22 - 0:46)

By now, hopefully you've gone through the lesson content for the slides, and hopefully you've had a chance to review your ebook. So we'll just kind of recap some high level content here for you. So it's important to know that for a thoracic and pulmonary surgery, this can include any type of procedure really of the respiratory system or the thoracic cavity.

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So it can be surgeries on the lungs or perhaps the bronchi, the oesophagus, or even the thymus. So we do exclude any cardiac interventions though from thoracic and pulmonary surgery, that's a whole separate entity. So being really familiar with just the respiratory system overall, your general anatomy.

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So knowing the main bronchi and that it separates into both lungs with the main bronchi kind of dividing into two, one into each lung, noting that the diaphragm is at the bottom, and also just being aware of where like the pharynx, the oesophagus, things like that all are. So that way, if you do have any kind of questions where you need to visualise the respiratory system, it'll come to you a little bit easier. So the respiratory system is basically divided into the upper and lower tract.

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So the upper tract are things like the nose, the nasal cavities, the mouth, the pharynx, and the larynx. So in the back here, and then the lower tract is for the trachea, the bronchi, the bronchi here, and the bronchioles and the lungs. And really, knowing the function of the respiratory system, and as we know, it's all kind of linked in with the cardiac system and the vascular system, but knowing basically that the main function of the respiratory system is for oxygen intake and carbon dioxide elimination, really important.

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So there are respiratory processes that you should for sure be aware of, ventilation, diffusion, and perfusion, and knowing the difference between those three, really important. So make sure that you're making some note cards for that. Also knowing that the lungs are broken up into

different segments and lobes.

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So there's the right and left lobes, and then there's also bronchopulmonary segments, and kind of the different functions there, as well as the pleural cavity. So, and then of course, mechanisms of breathing, there is pressure that is applied, negative pressure between the pleural membranes, and that's really equal to just atmospheric pressure in the airways. And then we have inhalation versus exhalation.

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So when we inhale, the diaphragm contracts, and so it decreases the potential space in the lungs, and so it pulls the air inward. Whereas when the diaphragm relaxes, it increases the space of the lung, and then air actively, or rather passively, can flow out of the lungs. So it's not always something that we're conscious of.

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There's a great video about just how lungs work that'll help give you another kind of just quick overview. And then also knowing, like I just mentioned, breathing happens automatically. So yes, you can do some kind of breath work and be a little bit more mindful to control it.

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But generally, even if somebody has never done that, obviously, breathing just happens automatically, and that is controlled by our autonomic nervous system. So when we look at different diagnostic tests for the respiratory or the pulmonary system, we are looking for different issues within that system. So a few different tests that may be ordered prior to any sort of surgery would include pulmonary function tests.

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These are often done in office, and include kind of a number of different breathing practises kind of into a machine to tell you kind of where the patient's pulmonary function is at. We can also do some laboratory tests to check function, as well as imaging studies, right? So CT, MRI, X-ray. And going back to pulmonary function testing, there is a number of tests that we included in kind of this slide deck there to tell you all the different tests that can be included.

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Total lung capacity is one that is frequently checked, as well as tidal volume. So that's the air really exhaled during normal expiration. Some blood tests that we might order that's specific to respiratory includes a CBC that's a complete blood count.

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So things like white cells to check for infection. CBC also looks at red cells, platelets, a number of different areas of the blood there. And we can also do arterial blood gases.

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This determines the amount of oxygen and carbon dioxide levels, along with the pH of the blood gases. And we can also do culture and sensitivity testing from the respiratory tract. So that's either swabs or maybe even obtaining things like mucus or sputum from the respiratory tract to see if there's any sort of infection and what antibiotics it may or may not be sensitive to.

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One other test that I didn't mention prior is a pulmonary angiography. And this is really where we take the patient in and we can inject through an IV some contrast, and then it'll be able to kind of help us visualise a little bit better any sort of abnormalities within the vessels of the lung. So we're looking at blood vessels there.

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For case planning, you wanna basically know if there's gonna be any kind of chest drainage that might be required in terms of preparation, what kind of positioning we might see, perhaps lateral, and any sort of particular draping that we might need to worry about. And the thoracic draping, it may be a little bit more as it's one of the bigger parts of the body. So also just kind of knowing your patient and knowing what draping equipment might be required.

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Any sort of drugs, obviously, or agents to help us in any sort of clotting. When we're opening up the chest, it can really be quite vascular. So just being prepared that way.

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And then of course, just knowing general instruments and what you'll need for any specific type of drainage. Definitely if there's gonna be any kind of chest tube, knowing that you have the drainage systems all set up for that, that's really important to have. Otherwise, we did cover some specific procedures like a thoracotomy, right upper lobectomy.

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So removing a portion of the lung there. Insertion of chest tubes. Again, we were just talking about drainage of the chest.

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This is an example of that. And then also being aware of post-insertion care, really important. So having a dressing prepared with petroleum gauze, a fluffed flat gauze, connected to water

seal chest drainage.

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And take a look in the ebook a bit more specifically about how water seal chest drainage works. And making sure that you have the proper amount and type of water necessary. Also knowing kind of where your suction equipment is at because that will need to be there for any kind of chest tube as well.

(9:02 - 9:29)

All right, I think that we covered everything that's really important in here. Definitely, if you have outstanding questions, especially now as we're getting into kind of more specific types of surgeries, be sure to keep track of your questions, schedule a coaching session for sure. And like I always mentioned, make sure that you are reading your corresponding ebook chapter.

(9:29 - 9:33)

For this particular lesson, it's chapter 31. All right, see you next time.