

The assistant's gonna make the first incision...

In any autopsy the classical way of beginning it is by making a Y-shaped incision, starting on the chest and then extending downwards to the pubic area. This allows full exposure of the various body cavities, while still maintaining a procedure which allows for an open-casket funeral – that's what the family desires.

What he's cutting through is subcutaneous fat and muscle... The first flap that he's reflecting is being done, so you can expose the neck organs or ...? which will be dissected out and examined as part of the autopsy.

The individual is being examined in this case... We suspect that the cause of death is a drug intoxication with amitriptyline which is an antidepressant medication... But, in order to prove that, we need... Ha! But the ...? thing is that this individual has had breast implants placed... They hadn't noticed the scarring earlier, so it's a little bit of a surprise.

And that's a silicon implant.

Okay, what he's doing now is reflecting back, cutting the diaphragm or the 'breathing muscle' attaches to the side of the body and exposing the peritoneal cavity or the abdominal cavity...

The doctor's examining the loops of (the) bowel, trying to find the appendix, and... she's found it, so she'll remove that. We'll keep that as... basically as a way of helping to identify people... If they have the appendix in place, it's an identifying feature.

Now the ribs are being cut, so that the chest cavity can be exposed... He's... now he's also cutting the next portion of the diaphragm and reflecting back the chest plate in order to expose the heart and lungs. And now you see the heart and lungs in place.

What he's doing now is cutting the pulmonary artery and checking to make sure there're no blood clots in there. A pulmonary embolus which is when somebody throws a clot to the lung is when a large clot forms... is formed somewhere else in the body and then travels to the

lung. What he pulled out was not a clot that formed when the person was alive, that was a post-mortem blood clot.

Now the heart's been removed, the next step will be to remove the lungs. He's taking the right lung out first... He's cut the bronchus – the main airway to the lung, and notice that there was some mucoid material in that bronchus.

He's now removing the pericardial sac(k) and reflecting the diaphragm in order to free up the liver for removal. ... Pardon me, (the) spleen's coming out now, that sits in the left upper quadrant of the abdomen... That's about the normal shape and size.

What he's doing now is he's putting a clamp on the proximal end of the small intestine, the duodenum. And then he'll free up all of the intestine so that it can be removed in a block.

And there we go...

That's an adrenal gland which she's dissected off the top of one of the kidneys. Is that the left? – Right. Now he's incising the renal capsule which is a thin membrane that surrounds the kidneys and he's stripped that back to expose the kidney itself and then he'll remove the kidney.

He's gonna free up all of the tissues through to the base of the tongue, and then dissect down along either side so that the neck organs can be removed along with the tongue.

Now that he's done the upper chest he can transect them, because it leaves enough room for them to effuse embol...??? vessels down ...?

Okay, he's now reflecting the scalp. The front has been done, now he'll reflect the posterior portion.

Now that the... all of the incisions have been made he'll use the key in order to free it up and peel it off from the dura (mater) and as we can see now the brain's been exposed.

(The) first thing he'll do is (to) reach down in and cut the optic nerves, they're the first thing that will hold the brain in place. Once those have been cut, he'll cut some of the other cranial

nerves and then he'll need to make an incision through the tentorium, which is a tough membrane that holds the cerebellum in the posterior part of the skull. Once that's done he can put his knife down into the frame and ... and transect the final palm and essentially deliver the brain!

The skull on the inside is lined by a tough membrane, the dura mater. In order for us to be able to visualise if there's any fracture(s) that membrane needs to be peeled away from the underlying 'bellum so that's what the assistant's doing.

Doctor ...'s now examining the heart. The first thing she'll be doing is looking at the coronary arteries to make sure that they're intact and that there's no sign(s) of thrombosis or atherosclerosis. The artery she's dissecting right now is called the left anterior descending artery. It's the vessel that supplies the anterior portion of the left side of the heart or the main pumping chamber of the heart.

Representative samples of the various tissues that have been examined will be saved in formaldehyde and that's what you're seeing her doing right now.

The outflow track to the pulmonary artery is normal and the three leaflets of the pulmonary valve are intact and normal.

This is the aorta she's opened, the aortic valve and you can see the two coronary ostia where the coronary arteries come off from the aorta, just above the b...? cusps.

This is the right lung... You can tell that it's the right lung, because it has three lobes: one, two, and three. The left lung normally will have two, sometimes you can find multiple lobes in both lungs, sometimes up to five separate lobes may be seen.

Doctor ... is now opening the main bronchus of the right lung and following it out through its primary and secondary divisions.

Again, (the) purpose of this is to see if there's any evidence of disease or other abnormalities such as obstruction by foreign bodies.

She's examining the liver. This is the inferior under-surface of the liver. The gallbladder has already been opened and that's what she's looking at there. The top surface of the liver is seen here with the larger portion being the right lobe, the smaller portion the left lobe.

The colour and appearance of the liver are normal, it's a little darker than expected which is probably due – again – to congestion, or the backup of the blood in the organ.

These are the kidneys, and remember that the left kidney it was the one which had all of the scarring and is markedly shrunken. – It was the right... – It was the right? Pardon me. It was markedly shrunken in comparison to the right side.

And that's weird. Looks like a brain?. What you're seeing is that there's marked thinning of the cortical tissues and even portions of the medulla.

See how much more full and thick the tissues are in the uninvolved kidney.

This is the spleen. Outer surface and then the inner surface with (the) hilum which is where the blood vessels enter the spleen.

The capsule is intact, thin, essentially normal, the ...? internal part of the organ appears a little congested, or filled with blood, but otherwise normal.

This is the organ block containing the uterus, fallopian tubes and ovaries, along with the vaginal stump, and the urinary bladder. The bladder is anterior to the uterus. This is opened through the urethra, or urethral meatus. It didn't look that bad or somebody...

Doctor ... is now dissecting off the bladder, and opening the vagina. So that you can that the cervix, this is a cervix that has a slit-like opening, which indicates that this person has probably had at least one child.

The uterus is normal shape and size... and no evidence of tumours in the muscular wall of the uterus. The endometrial cavity appears a little haemorrhagic – it could be an early menstrual phase.

This is a benign muscle tumour of the uterine wall.

The fallopian tubes are intact... and the ovaries appear, again, normal shape and size. There may be some small cysts... yeah, you can see the degenerate corpus luteum, which is that yellow and red structure.

Now we're doing the neck block... with the attached tongue. This is the epiglottis here. The vocal cords can be seen down in that opening. – This is the anaesthesiologist and paramedic's view, this is what they see. – This is what they see when they're trying to intubate somebody. First she'll open the oesophagus... You can just see a normal-looking mucosa, no foreign bodies. Next she will open the larynx and trachea. Again – a very normal-looking appearance, nod(ul)es of the vocal cords – there and there.

Finally she'll open the aorta... And you can see the openings for the very... the branches of the costal arteries – the ones that run through the ribs... .. , coming off of the thoracic area.

Next she'll dissect down to expose the thyroid gland – which essentially sits like a butterfly, wrapped with its wings around either side of the trachea.

Thyroid gland... Again, looking like... it has... it is normal shape, colour and consistency.

These are the adrenal glands that sit on top of the kidneys. As you can see they have two layers, one is that outer, sort of yellow layer, the inner is a darker red-brown. The outer layer is where you produce various hormones such as steroid hormones... other things that control... food balance in the body, things like that...

The inner layer, the red one, is the adrenal medulla, and that's where you produce the epinephrine ...? that gives that surge... in a 'fight or flight' situation...

Finally the brain: nice symmetry, no evidence of some process involving one side of the brain over?/or? the other... The inferior surface, the top of ... ..? shows the various cranial nerves, the olfactory nerves are the two long ones across the front of the brain, that's what she's touching now is where the optic chiasm is, where the optic nerves cross.

Various cranial nerves extend off either side of the brain stem... That's like the trigeminal (nerve)... Vessels are intact, do not have atherosclerosis...

(The) first thing she'll do is (to) remove the cerebellum... There's two black stripes, yeah, (the) same thing, yeah, there's two black stripes of the substantia nigra. – In fact, this is the guy who had the foetal brain transplant... This was the cells they were re...? I wonder how he's been?...

She's now dissecting off the brain stem from the cerebellum, cutting the cerebellar peduncles.

Waiting for the guest of honour? – Huh? – Waiting for the guest of honour?

Now dissecting through this... brain stem. ...? making sure that there's no signs of any abnormality. – So this is the midbrain that has the... substantia nigra... And you can enter? the pons which has lots and lots of crossing fibres... And there's the medulla where the fibres (are) straight... running up and down...

What's you're seeing is the light-coloured portions of the brain... are essentially wiring, and then the greyer, darker parts are where cell bodies ... ..

- This is the cerebellum. This central lobe right here is the ... .. malnourished alcoholic.

This is the ... nucleus which is one of the places ... .. the coordination centre... .. I think the lady was... .. find some amitriptyline... ..

These are the various lobes of the brain, the frontal lobes, these are the temporal lobes, this would be parietal, and occipital towards the back.

Now there's two small dots, they're called the mamillary bodies. Now what she'll do is just issue? a section through the brain. That division between white and grey is more apparent here in the cerebral cortex.

You can see fluid leaking from the ventricular system.

The white band crossing from the right and left sides is the corpus callosum. Essentially, that's how your brain... the two halves of your brain communicate with each other.