00:00:07 Faculty

Ok, I'm going to have to go section C so if you could just take over looking over Winston for me.

00:00:17 Faculty

So this is Winston Moore. He's really been quite stable, so the history of him is he's a 75 year old chap.

00:00:21 Faculty

He had a UTI, treated with antibiotics and the GP but they didn't really work for him very well. His wife found him collapsed at home.

00:00:30 Faculty

Brought into ED and diagnosed with urosepsis and he was quite knocked off, low GC, low blood pressure, the usual.

00:00:38 Faculty

So he had a CT scan because he was found collapsed, the CT scan was normal and he's brought down to ITU probably about three days ago. OK, has changed the antibiotics.

00:00:49 Faculty

Responding to the antibiotics really quite well and now sort of in a position where he's over the worst I would think.

00:00:57 Faculty

Respiratory wise, he is on 16 / 5 quite good, tidal volumes about 500.

00:01:02 Nurse 1

Is that the aim?

00:01:05 Faculty

Yeah sort of, and I have been weening that and he's only on 30% now. So he's really on minimal support rom the ventilator now. We could move to CBAP support if he would wake up.

00:01:16 Faculty

And cardiovascularly his tropics requirements have been quite high but now they're only on 4, 4 mils.

00:01:21 Faculty

Blood pressure's been stable, so we've got a 65 to 70 now. He's doing really well on that.

00:01:30 Faculty

The thing is, we're wanting him to wake up for about 12 hours now. And he's not showing any signs of waking up now they think it's maybe because that he's been sedated for a while, but they want him to go for another CT, even though the last CT was normal. Only go for another CT just in case something has, you know, happened when he was being ventilated and paralysed and stuff.

00:01:49 Faculty

So currently he is stable that the CT scan has been booked in 3 hours time, 2 and a half 3 hours time.

00:01:56 Nurse 1

OK.

00:02:00 Faculty

I've just been getting ready for that. But he has been really quite steady. Cardiovascular is stable. So the things that he's on, the propofol and fentanyl I've left attached just in case he has a sudden wake up.

00:02:08 Nurse 1

OK.

00:02:10 Faculty

But he hasn't shown any sign of that.

00:02:11 Faculty

Noradrenaline is there. They've got a second syringe and you've got maintenance fluids going at 80 mills an hour.

00:02:17 Faculty

He was fed but because he's going for a scan, I have turned the feed off. And.... that’s him.

00:02:29 Nurse 1

Right, what ET tube do I have in? What size?

00:02:34 Faculty

You have a size 7 ET tube, it is tied at 22 to the lips. And that has been constant throughout. End tidal CO2 is there and end tidal CO2 has been fine. This is the last gas that I did.

00:02:45 Faculty

So quite a healthy PO2, CO2 4.6, you know, all doing well.

00:02:49 Nurse 1

Yeah. Have you supplemented the potassium at all?

00:02:55 Faculty

I didn't supplement that one, though, because I felt there was he wasn't very symptomatic or anything so I didn't do that.

00:03:03 Nurse 1

Alright, OK.

00:03:04 Faculty

I'm just going to go to section C. Alright? But I’ll be around if you need me.

00:03:11 Nurse 1 (to patient)

Hi, Winston. My name is NURSE ONE. I'm going to be the nurse looking after you. I'm just going to do a little assessment, ok? So I know where things are.

00:03:22 Nurse 1

Yeah. Check all our alarms and things. Good p's, good tidal volumes.

00:03:37 Nurse 1

I'm just going to give a little suction just to make sure.

00:03:40 Nurse 1

Everything was all clear.

00:03:52 Nurse 1 (to patient)

Winston, are you able to open your eyes for me?

00:04:03 Nurse 1

See if you can open your eyes at all, I'm just going to give a little squeeze here.

00:04:06 Faculty

No response to that.

00:04:09 Nurse 1

Alright, Winston, I'm just gonna open your eyes, give you a little hand here just to open them, just to have a little check. We have equal...

00:04:28 Nurse 1

Good, he seems to have equal bilateral pupils. Size fine. OK, you're not being responding to anything.

00:04:37 Nurse 1 (to patient)

Are you able to squeeze my hands at all, Winston?

00:04:43 Nurse 1

So what I'll do, everything looks nice and stable, so I'm going to continue with my assessment.

00:04:49 Nurse 1

Now a little listen to your chest, Winston.

00:05:39 Nurse 1

Sounds nice and clear in the chest.

00:05:58 Nurse 1

OK, I'm just gonna continue doing my assessment.

00:06:14 Nurse 1

Sorry, Winston. Oh, he's just gone extremely tachy, can you get someone to give me a hand?

00:06:22 Faculty

Who would you like?

00:06:23 Nurse 1

One of the nurses and one of the doctors please.

00:06:38 Doctor

Hi I am one of the doctors here to help.

00:06:42 Nurse 1

Hi, do you know Winston at all?

00:06:43 Nurse 2

So we were told urosepsis, here for a few days?

00:06:47 Nurse 1

Yes, he was. I've just been doing my assessment and was completely stable, just gone into very tachy.

00:06:54 Nurse 1

He was sitting around 110-150.

00:07:03 Doctor

So he's still on norad but his blood pressure been above 70 max.

00:07:14 Nurse 1

He's still on bi level, meeting good tidal volumes. We're on 30%, 99% of the mid chest is nice and clear.

00:07:21 Nurse 2

And he was the guy who had been in CT head?

00:07:24 Nurse 1

Yes. Yeah, in about 2-3 hours time.

00:07:25 Nurse 2

Is that his old ECG?

00:07:29 Nurse 1

Yeah, can we get a new ECG?

00:07:31 Nurse 2

Yeah I think that might be AF.

00:07:35 Doctor

Have you got any medications? What's he on?

00:07:39 Nurse 1

Happy to check.

00:07:43 Doctor

Yeah good to see what he's had recently.

00:07:44 Nurse 1

Any new drugs, anything else change recently or just suddenly...

00:07:47 Nurse 1

Nothing that I'm aware of, just some spontaneous reaction recently (unintelligible)

00:07:53 Faculty

No, no, nothing. (unintelligible drug names)

00:07:58 Doctor

OK. Has he had any cardiovascular, beta blocking, anything like that?

00:08:01 Faculty

No, no.

00:08:02 Doctor

Not that you know.

00:08:04 Nurse 1

His potassium on the last gas was 3.2 which we should probably supplement.

00:08:07 Nurse 2

Yeah, would be great. Magnesium?

00:08:12 Nurse 1

I'll just check the magnesium, take a quick look at it.

00:08:14 Nurse 2

Looks like a bit of AF.

00:08:17 Faculty

I'll see if I can get an ECG

00:08:18 Doctor

Thank you very much. OK.

00:08:20 Nurse 1

I don't know what the magnesium is.

00:08:23 Nurse 2

OK, that's fine. We'll have that one whatever. Let's replace the potassium. You got a central line haven't you?

00:08:27 Nurse 1

Yeah.

00:08:32 Nurse 1

This size, that ok?

00:08:36 Nurse 1

Yeah, that’s fine.

00:08:40 Faculty

ECG, 12 lead, that's the one just done.

00:08:54 Doctor

Alright, this is the first time...

00:08:55 Faculty

Magnesium was 0.75.

00:08:59 Doctor

OK, let's replace magnesium as well.

00:09:05 Doctor

What do we have there?

00:09:16 Nurse 1

Seeing as this is a new AF, the only thing we can do...

00:09:25 Nurse 1

OK. Shall we get some amiodarone just to run through over the next hour and see if we can cardiovert him chemically with that?

00:09:36 Faculty

You've done potassium and I've done magnesium.

00:09:38 Nurse 1

Thank you very much.

00:09:39 Doctor

300 amiodorane to run over an hour and then we'll go there.

00:09:42 Nurse 2

Is he nice and warm?

00:09:47 Faculty

Normal warm, yeah.

00:09:48 Doctor

Alright Winston, just going to have a look at you.

00:09:57 Nurse 2

OK, potassium is going in.

00:10:09 Doctor

And the norad, you said, was coming down?

00:09:57 Nurse 1

It’s off...no, no, no, it’s on.

00:10:16 Nurse 2

I'll just put it up a little bit. Support with the pressure.

00:10:34 Doctor

Any murmurs when I listened to his heart?

00:10:41 Faculty

Nothing that you can hear. That’s just what you hear.

00:10:48 Doctor

Well, I don't know whether or not...he's gone into AF, might be a bit of sepsis, tummy ok? When I’m feeling it, is it soft?

00:10:59 Faculty

Yep.

00:11:01 Doctor

And urinary catheter, is that draining?

00:11:04 Nurse 1

Yeah, he’s got a bit.

00:11:06 Doctor

Can you give a bolus of plasma please?

00:11:13 Doctor

I'll go up on the norad.

00:11:18 Doctor

Just dropping his pressure little bit. So I think we've just go up on the noradrenaline.

00:11:30 Faculty

How much do you want to go up to on the norad? 5 or 6?

00:11:34 Doctor

Yeah, let's go to 5.5 and see if that responds.

00:11:43 Doctor

Any new swelling or anything in his legs?

00:11:45 Nurse 2

Little bit of chest infection.

00:11:51 Nurse 2

Has he been hypoxic at all?

00:11:54 Nurse 1

No this is all very out of the blue, very sudden.

00:12:01 Doctor

Let's get the amiodorane up, if he is persistently hypertensive, we might have to think about DC cardioverting him. But we’ll try and do it chemically first. Just to think, causes of this AF..

00:12:18 Faculty

Putting up...

00:12:20 Doctor

Magensium, ok...You've got the fluid, have you got the amiodorane?

00:12:28 Nurse 1

Amiodorane is just going.

00:12:27 Doctor

Lovely. Fantastic. OK, so we're treating a fast AF. And we're replacing electrolytes that may have triggered AF. Other triggers for AF? Well, could be a new septic shower. He's had urosepsis. When were the bloods taken, was that yesterday morning? As in this morning, early hour bloods.

00:12:53 Nurse 2

I think that's the potassium.

00:13:02 Doctor

Let me replace everything. Get bloods just as a routine...um...and we’ll see if this settles down.

00:13:12 Doctor

If it continues to, oh 69, don't like that.

00:13:14 Nurse 2

Go up on the thing to 6.

00:13:18 Doctor

And what strength norad are you running there?

00:13:19 Faculty

Just 4.

00:13:20 Doctor

Might need to double strength then.

00:13:39 Doctor

OK, neurologically have we checked has he made any response?

00:13:41 Nurse 1

Pupils are equal and reactive

00:13:44 Doctor

And he's not coughed or anything in the tube?

00:13:47 Doctor

OK, so it's still pretty flat.

00:13:50 Doctor

OK. Alright. Then we'll give that amiodorone a couple of minutes. I don't know if we can bring the defibrillators things nearby in case he needs to be cardioverted. We’ll see what happens in the next couple of minutes.

00:14:16 Nurse 1

Blood pressure is coming up a bit more.

00:14:17 Doctor

Yeah, we just doubled the strength on the norad.

00:14:30 Doctor

Anybody else got any thoughts or observations?

00:14:35 Nurse 2

No, nothing else changed in the patient?

00:14:36 Nurse 1

Blood gas?

00:14:37 Doctor

Yeah we could take a repeat blood gas, that would be helpful.

00:14:42 Nurse 2

Sats are 93. Do you want to go up to 50% on that?

00:14:49 Doctor

Can someone calculate how much norad with 6 mills there? Thank you that would be very helpful. Still hypotensive despite all of that. Go up on the norad to 8 for me. And if not, we’ll get on and cardiovert him because that looks like he is not responding particualrly well, he’s not tolerating that rate at all. Go up to 8 for now and we can always tailor it back.

00:15:18 Nurse 1

Is this the amiodorane, is that right?

00:15:21 Nurse 2

That’s the amiodarone.

00:15:23 Doctor

Is it running?

00:15:24 Nurse 2

Not yet.

00:15:25 Doctor

No worries, amiodarone over an hour. 300 over an hour. And then follow on infusion.

00:15:35 Nurse 2

Blood pressure is still dropping. Shall I do another invasive?

00:15:39 Doctor

Yeah, do another invasive and see if that correlates but I think the non-invasive might be a bit tricky because of the AF. You can try. Can you bring that over and we can get him set up? Now, I don’t normally use that defibrillator so someone is going to have to see if they help me with...

00:15:55 Faculty

Are you prepared to help with defib?

00:15:58 Nurse 2

Yeah.

00:16:02 Faculty

I’ll just do a gas.

00:16:03 Doctor

That's very helpful, thank you.

00:16:07 Doctor

So guys, I think probably what we will end up doing is DC cardioverting him because despite fluids, despite us replacing, the amiodarone hasn't been going for long. But actually he's not going to be fine at this blood pressure for very long.

00:16:19 Faculty

Blood gas result.

00:16:21 Doctor

Oh, thank you so much.

00:16:23 Doctor

Show me while you're doing it so I now for next time.

00:16:31 Doctor

So we want to DC cardiovert, so what I want to do is put it into...DC cadiovert, so I think it's gonna be, we have to do it manual, can we go up to 150? And then we want to sync it, sync on the top left for me. Press that and then we get the dots, that's all fine...yeah cardioverting 150

00:17:04 Nurse 2

Norad has just gone up now.

00:17:04 Doctor

Now, OK, fantastic. Alright. Yeah. So OK, I think DC cardiovert him.

00:17:11 Doctor

Are you happy, to do the Defibrillation? OK, so we're just gonna, everybody step back a minute.

00:17:17 Doctor

You're in charge.

00:17:19 Nurse 1

Everybody stand back.

00:17:24 Nurse 1

Ok, everybody stand back now.

00:17:35 Doctor

So looks like we're back in sinus rhythm on the monitor. Let’s see what happens to blood pressure while we do that, just be wary we might have to titrate that norad down quite quickly.

00:17:47 Doctor

So heart rate back to normal, blood pressure is stabilised a bit, but not fantastically.

00:17:57 Doctor

Let's just see that blood pressure, it continues to drop, can you get on the second one?

00:18:00 Nurse 1

Ok, stand back, charging.

00:18:10 Doctor

Is there someone else you could possibly give a call to the consultant? Just let them know this guy's a bit unstable. One of my colleagues if they're around in the coffee room, do you mind?

00:18:16 Nurse 2

Are you free to...

00:18:22 Doctor

Yeah, if one of the regs is around, fantastic. If not, if the consultant is around, that would be great.

00:18:25 Doctor

Just to get another pair of hands over in case he decides to not...

00:18:45 Doctor

Just do this gas as well, pH looks ok, oxygenation was good on that gas, CO2 is alright, potassium confirmed as low but we are replacing it.

00:18:57 Nurse 1

Just looking at the balance...

00:18:59 Faculty

The general fluid balance has been fine.

00:19:01 Doctor

They're not overloads. We've got room to give a bit more fluid as well.

00:19:05 Doctor

When that finishes, let's give another 250 of fluid. And that was the second shock was it?

00:19:10 Nurse 1

Yeah.

00:19:12 Doctor

So we can do another one as well.

00:19:13 Nurse 2

Now we're going into tachy, 170.

00:19:15 Doctor

Can we give another shock please? So you're in charge again.

00:19:20 Nurse 1

OK. Charging again at 200, everybody stand back.

00:19:26 Nurse 1

Cardiac arrest.

00:19:28 Doctor

Blood pressure, alright that looks like we're into PA.

00:19:30 Doctor

Can you start on the chest, please? Chest compressions? Yeah. Thank you.

00:19:41 Doctor

Good. Chest compressions. Yeah. Output. Well done.

00:19:49 Doctor

Can someone time 2 minutes?

00:20:04 Nurse 1

Let me know if you get tired.

00:20:18 Doctor

Adrenaline. Sorry, can someone get some adrenaline out of the prep pack?

00:20:35 Doctor

When we've had 2 minutes we'll pause and see what kind of rhythm we're in.

00:20:38 Doctor

So we're gonna do...adrenaline. Cannula here, let’s give that there. Give some adrenaline through that. Is anyone else coming? Crash call went through?

00:20:48 Nurse 1

Yeah.

00:20:50 Doctor

Lovely. Thank you.

00:20:53 Nurse 2

How much adrenaline do I need to give?

00:20:55 Doctor

One minute down. One minute. Yeah, one minute to go.

00:21:00 Doctor

Ok let's think about 4 H's and 4 T's while we're here.

00:21:03 Nurse 2

How much adrenaline?

00:21:05 Doctor

The whole lot please. So hypotension, was hypotensive but we corrected the fluids, got a fluid bolus running. Hypoxia, we’re happy it’s not hypoxia, saw the blood gas with good oxygenation. Hypokalemia, just given potassium but it was low on that gas. Two minutes, ok pause. Assess rhythm. Ok 10 seconds, looks like PA, back on the chest compressions. Given some adreanline, lovely. Back on the chest, 2 minutes. CPR, let’s coninute going through our 4 Hs and Ts. We’ve done hypoxia, hyperthermia no, hypokalemia we’re correcting that, is there a chance we’ve given that potassium too fast?

00:21:52 Nurse 2

No, it’s still going.

00:21:54 Doctor

Ok.

00:21:56 Nurse 2

Shall we get another gas?

00:21:58 Doctor

Yeah, another gas. Good oxygenation, Clinically listened to the chest, which was alright. Tampenard, highly unlikely. No cardiac history, no cardiac mention. ECG showed AF just before.

00:22:25 Doctor

Toxins, no other recent drugs. We said that at the beginning, we haven't given anything different or new.

00:22:33 Doctor

Embolism, could be.

00:22:36 Nurse 2

Got some blood pressure coming back.

00:22:51 Doctor

OK, two minutes. We're going to pause.

00:22:55 Doctor

OK, that looks like we've got output. We've got blood pressure with that, ok.

00:23:00 Doctor

Alright, let's just reassess then. So from top to bottom.

00:23:07 Nurse 1

Tube is still central. Tube doesn’t seem like...

00:23:21 Doctor

Just nice and clear. Both are orange.

00:23:21 Doctor

Chest is nice and clear.

00:23:31 Faculty

OK, the gas machine was just calibrating. So we do have a pulse.

00:23:40 Doctor

Yeah, we’ve got a nice perfusion rhythm here. CO2, cardiac output.