00:00:30 Faculty

So this is Harry Cooper. He's a 70 kilogram, 38 year old man.

00:00:35 Faculty

Polytrauma, came as a trauma call earlier on in the evening, about 6:30 he arrived in the department.

00:00:39 Faculty

Fell from a horse, kick to the upper left quadrant. No loss of consciousness, arrived GCS 15 and he's got an obvious right humoural shaft fracture and a CT scan showed a splenic laceration and a couple of litres lost.

00:00:55 Faculty

We took them straight through to theatre for laparotomy.

00:00:58 Faculty

Head counts well, nothing detected on that. And he's had his transemic acid in the theatre. And I’ve given him a second dose in the theatre.

00:01:07 Faculty

He's got past history of mild asthma as a child, not in any treatment at the moment, had anaesthetics before, no previous issues. No allergies that I'm aware of. He's a social smoker whatever that means.

00:01:18 Faculty

And he last had something to eat at 2 O'clock. So we are aside him on the table in theatre. He was a grade one intubation.

00:01:25 Faculty

And he's got size 7 tube ends tied, 22 centimetres of the teeth, all through a ventilator on about 20 over high.

00:01:34 Faculty

He's been oxygenating reasonably well with that.

00:01:36 Faculty

Haemodynamically little bit unstable at the start.

00:01:37 Faculty

Then blood pressure down to about 80 responded well to metramaline initially.

00:01:43 Faculty

Then had to get him some noradrenaline and that was running at 100 mills toward te end.

00:01:47 Faculty

Given ketamine and fentanyl for the induction. He had them rapid sequence and he's had his antibiotics.

00:01:58 Faculty

8 units of red cells.

00:02:00 Faculty

4 units of FFP, 2 units of platelets, haven't had a chance to send off the same set, hasn't given any cryo yet.

00:02:13 Faculty

Yeah, he had antibiotics on the table.

00:02:17 Faculty

We gave him (unintelligible antibiotic) I think

00:02:20 Faculty

I have no idea what his family situation is. I don't know what his relatives have been told.

00:02:34 Doctor

Just a couple things. So just confirm he's had his one gram of transemic acid and then you've completed the second gram over 8 hours? That’s gone in, what access does he have?

00:02:42 Faculty

He's got left line in. Then he's got the left radial arterial line in.

00:02:48 Doctor

16 on that side.

00:02:51 Doctor

It's nothing big? No swollen sheets or anything anywhere because quite a lot of blood product needed?

00:02:59 Doctor

And the norad requirement at the moment is 8 mils, single strength?

00:03:02 Doctor

OK, fine. Any allergies?

00:03:06 Faculty

Not that I'm aware of.

00:03:09 Doctor

The surgeon...

00:03:12 Faculty

Splenectomy, he had small bowel perforation. They resected a small segment and they're being reanastomosed

00:03:17 Doctor

Has his neck been cleared?

00:03:19 Faculty

Yes, we got the report on the CT scan, he got a knock on the head but nothing on it.

00:03:24 Doctor

So the trauma team have cleared his neck, formally or not?

00:03:28 Faculty

They cleared it verbally with me.

00:03:30 Doctor

OK, so at the moment our policy would be, that we haven't had his neck formally cleared, we haven't got documentation.

00:03:44 Doctor

OK. So anything else you think we need to know.

00:03:47 Faculty

And I don't think so. All things considered, he's been recently well behaved, his temperature was been normal.

00:03:53 Doctor

Drains? How many drains he got?

00:03:59 Faculty

Just the one. He's got it on free drainage.

00:04:02 Doctor

The surgeon is going to come give us a separate handover?

00:04:04 Faculty

Yes, they are, they’re just busy at the moment.

00:04:08 Nurse 1

I'll get the phone.

00:04:17 Nurse 1

Hi, can I help?

00:04:22 Doctor

Got things we need to do.

00:04:27 Faculty

Just going to put this blood gas through.

00:04:30 Nurse 1

We’ll need ECG too.

00:04:35 Doctor

Ok, already saturation. Let's just have a quick look, ground on 50, wasn't he?

00:04:42 Doctor

Yeah, he's still ventilating.

00:04:44 Nurse 2

Yeah, 255 so he might go down slightly but he's interreeling.

00:04:48 Doctor

He's interreeliing.

00:04:56 Doctor

Give him a little bolus of fentanyl to try and stop him doing that.

00:05:00 Doctor

Do you wanna pop his FiO2 up to 100%?

00:05:03 Nurse 2

ph is 7.2 to 7.4

00:05:11 Nurse 2

Hb's holding 110, sodium's great, potassium five, (unintelligible) 4, lactate 4.2

00:05:19 Doctor

4.2?

00:05:21 Nurse 2

Yeah, base excess, tidal volumes at 166.

00:05:24 Doctor

OK. So just bolus of 100 of fentanyl. So let's make sure I haven't missed these other cases.

00:05:30 Doctor

Could be metabolic and respiratory acidosis. We're driving your blood pressure quite hard on that norad, I might just pop that down a little bit because of that splenic injury we don't want to push the pressure too high and make him bleed further, do we?

00:05:50 Doctor

Alright, that was only a pO2 of 7.4 on 50%. Not great is it?

00:05:54 Doctor

Got this tube of 22 which is where we're set.

00:05:58 Nurse 2

Got bilateral potassic function.

00:06:04 Doctor

Sounds quite wheezy on the left.

00:06:13 Nurse 1

Shall we try to get salbutamol?

00:06:19 Doctor

Can you get a salbutamol neb ready?

00:06:21 Doctor

Because he's got this history of asthma we don't know very much about.

00:06:48 Nurse 1

Chest x-ray?

00:06:50 Doctor

Yeah, please, I'd actually order one now.

00:06:56 Faculty

That's the salbutomol running.

00:06:59 Nurse 1

Is the ECG available?

00:07:05 Doctor

If you want to give him a 2.5 salbutamol neb.

00:07:07 Nurse 2

It’s going.

00:07:07 Doctor

Fantastic, I will electronically request the chest x-ray if that's allowed, 1762 and ask them to do it.

00:07:19 Nurse 1

There's some...bleeding.

00:07:30 Doctor

Yeah, on the right shoulder. Gosh. OK. So is there blood coming out?

00:07:33 Nurse 2

I'm going to go down on norad.

00:07:45 Doctor

Where's that torch gone?

00:07:48 Doctor

Do you think he's in pain?

00:07:49 Nurse 1

Where was his (unintelligible)?

00:07:57 Doctor

Pupils are equal and reactive.

00:08:00 Doctor

Just look back at his anaesthetic charts.

00:08:03 Nurse 1

Bruising...

00:08:08 Nurse 1

What’s his normal map?

00:08:10 Doctor

There's no reason to enter anything other than 65 on this guy.

00:08:13 Doctor

It's a traumatic injury, splenic injury.

00:08:16 Doctor

So just to the chest X-ray, so the tube is appropriately positioned, he's got the central line in place, there isn't a visible pneumothorax his Ng tube is appropriately positioned. So he's quite wheezy.

00:08:32 Doctor

At the moment we've got an issue with ventilation.

00:08:51 Doctor

OK, so the thing that I'm most worried about is this guy's ventilation at the moment. I know we've got this worry about his abdomen but at the moment he's heamodynamically stable, isn't he? So we know he's been subject to trauma, he's had a laproctomy, there's a story of asthma but we have no further details, he's going a very obstructive looking caprograph hasn't he? He sounds wheezy, so what have we done so far? We've given him 2.5 of salbutamol, what sort of tidal volumes are we getting? So our tidal volumes have come up...how are we ventilating? We've got 118 over 5

00:09:24 Nurse 2

Yeah, and it's 122 (unintelligible)

00:09:39 Doctor

So our pressures are reasonable, he's still quite bronchospastic, can we give him 500 micrograms of ipratropium?

00:09:56 Doctor

So our vent is...still interbreathing, isn't he?

00:09:59 Nurse 2

I gave them him another mill.

00:10:03 Doctor

Can I stick his fentanyl up?

00:10:05 Nurse 2

Yep.

00:10:10 Nurse 1

Pressure is holding at about 100.

00:10:18 Nurse 1

Sats rate 85...

00:10:21 Nurse 2

82, 81, it’s coming down.

00:10:26 Doctor

Let's bag him for a bit then.

00:10:29 Doctor

You guys got a stethoscope to have a listen?

00:10:35 Doctor

Just get a water circuit.

00:10:42 Doctor

And I'm disconnecting it here, is that alright?

00:10:48 Nurse 2

Yep, neb is not...

00:10:50 Nurse 1

Just gonna pause that because we're off.

00:10:54 Doctor

So what have we got there?

00:11:01 Nurse 2

Do you want to take out the norad?

00:11:08 Doctor

Any breath sounds there? So our tube is at 30%.

00:11:14 Nurse 1

Do you want to call anybody?

00:11:17 Doctor

Yeah, can you see if the other reg is around?

00:11:21 Nurse 2

He’s not ventilating.

00:11:22 Doctor

He's got an injury that's so he could easily have a pneumothorax then.

00:11:27 Nurse 2

OK, so he's got both sides wheeze.

00:11:30 Doctor

How does this appear to feel?

00:11:36 Doctor

We'll just decompress his chest, cause he's quite likely to have a tension pneumothorax. He's got tracheal deviation. He's got no breath sounds.

00:11:44 Doctor

Feels very non-compliant, the tubes are at 22 at the teeth so it's not moved.

00:12:13 Doctor

Can you call the other reg or the ICU consultant and say that I'm struggling with the patient.

00:12:17 Doctor

We think he's got a tension pneumothorax, from having difficulty ventilating him. And he's unstable. And if somebody could come and help as quickly as possible, that would be great.

00:12:28 Doctor

Turn the oxygen back on.

00:12:32 Nurse 2

We were about to decompress.

00:12:39 Nurse 1

Can I have the RC please?

00:12:40 Doctor

So I am going to feel for the 2nd intercostal space in the mid line.

00:13:08 Nurse 2

Back up, back up slowly.

00:13:13 Doctor

Now going to have to put a chest drain in this guy.

00:13:16 Doctor

Yeah. So there's a few things going on. Let's just reassess now we've got his sats up. So airway, his tube is size 7, 22cm in the teeth, breathing, bagging him but still not very compliant. We know he's got bronchospasm and decompressed what we think is a tension pneumothorax on the right. Circulation-wise, his map is now 70, he's still throwing off some unpleasant rhythms...

00:13:42 Doctor

I'm just going to turn that propofol, hold that propofol for a second, he doesn't need it with everything else going on.

00:13:53 Doctor

So, and disability wise, he's had an anaesthetic, gave a fentanyl

00:14:02 Doctor

So I wonder what's going on there with his ECG.

00:14:11 Doctor

While we're waiting for the chest, are you happy to fire a gas off?

00:14:17 Doctor

Entidal CO2 is still pretty low, isn't it?

00:14:18 Doctor

I'm going to pop the norad up.

00:14:26 Nurse 1 (on phone)

Hi, we've got a trauma patient who we've bagged and on ventilator.

00:14:40 Nurse 2

Do you want his ECG as well?

00:14:41 Nurse 1

Consultant will be 10 minutes.

00:14:45 Doctor

Do you want to try the theatre anaesthetist on 4321? And see if he can come help.

00:14:51 Doctor

If not, we'll try the cardiothoracic reg on call because we're going to need some help getting the chest drain in.

00:14:55 Doctor

Be good to have another airway trained person around.

00:15:01 Doctor

Just to be clear, you are just getting the chest drain running, you're running the gas.

00:15:07 Doctor

Let's just think about this guy. Poly trauma, he's had massive transfusion, his electrolytes cold be all over the place, couldn't they? That anaesthetist hasn't done a gas at all?

00:15:18 Nurse 1

Well, not that I saw.

00:15:25 Faculty

Gas is just calibrating.

00:15:27 Doctor

Let's just look back at this to have a think. So he had this acidosis, his potassium was only 4.9. Chloride is a bit high, lactate was a bit...

00:15:38 Nurse 1

Potassium was fine, wasn't it?

00:15:43 Doctor

His haemoglobin was 108. But he's got the kind of ECG that looks like he might have had a crush injury and have a lot of potassium now circulating around.

00:15:52 Doctor

The other thing of course is a thoracic injury, whether he's got a pericardial effusion as well with all this going on.

00:16:01 Doctor

I've stopped his propopfol for a minute.

00:16:05 Doctor

So OK, we've got a rhythm change there, can't feel a pulse ok, start CPR.

00:17:02 Nurse 1

Can you start timing?

00:17:13 Doctor

4:30, next time to check the rhythm is 6:30. That’ll be 2 minutes.

00:17:23 Doctor

So let's just run through, let's just think.

00:17:25 Doctor

We're gonna keep doing CPR, we've got a guy who's post trauma, working diagnosis, and it's difficult to ventilate from a combination of asthma and tension pneumothorax. We've decompressed him, he's then lost is cardiac output and we've commenced CPR.

00:17:40 Doctor

Rhythm underlined looked asystoley.

00:17:44 Doctor

So let's see if we can reverse. Has that other gas come back?

00:17:47 Nurse 2

Yep.

00:17:49 Nurse 1

So we've got a pH of 7.28, CO2 of 7.4, pO2 of 9.2, Hb is 108.

00:17:59 Doctor

So it doesn't look like he's bleeding.

00:18:04 Nurse 1

Potassium is 4.9, calcium is 1, glucose is 1.2, lactate is 4.3, and base of 6.6.

00:18:25 Doctor

Ok so not hypokalemic.

00:18:29 Doctor

We're correcting hypoxia as well as we can at the moment.

00:18:32 Doctor

So in 30 seconds, we are gonna reassess.

00:18:37 Doctor

Are you gonna be happy to deliver a shock?

00:18:45 Doctor

So you got 10 seconds.

00:18:50 Doctor

Can we get the cardiothoracic?

00:18:53 Doctor

Chest drain on the right hand side whilst we're doing CPR.

00:18:59 Doctor

Just got a 4444 and we'll switch.

00:19:05 Doctor

So that looks like VF, I think we should shock him.

00:19:07 Doctor

Let's continue compression.

00:19:11 Doctor

I'm going to take oxygen away, but continue compression.

00:19:16 Nurse 1

Everyone clear away, and shocking.

00:19:25 Doctor

Straight back on.

00:19:29 Doctor

First shock, we've got 7 minutes.

00:19:40 Doctor

And the glucose was ok on the gas, wasn't it?

00:19:43 Nurse 1

Yeah, 1.2.

00:20:09 Doctor

He's breathing a bit, you got signs of life. OK, let's reassess.

00:20:14 Doctor

Now he's got a pulse. OK, so stop CPR, OK?

00:20:22 Doctor

Let's just take stock for a second then. So our tube is still in the same place. 22 cm at teeth.

00:20:29 Doctor

So I'll just have another listen.

00:20:31 Nurse 2

Cardiothoracic is not picking up.

00:20:50 Doctor

So we've got much better, it's still very wheezy.

00:20:59 Doctor

That's fine. We've got effective circulation, OK. And six on norad.

00:21:04 Doctor

All right, so we need to do something to resuscitation. So we don't have a definitive chest drain in there.

00:21:16 Doctor

Do you want to put him back on the vent.

00:21:20 Doctor

I will look at putting a chest drain in.

00:21:21 Doctor

Still got a very obstructive trace.