6.4: Emergency Room

Day: 0

Time: 23h30 (1 hour post-MVC)

Place: Emergency Room

The ambulance pulls in and the paramedics easily lift the stretcher out of the back onto its wheels, and enter the triage doors.

Nurse Jackie looks up from the triage desk. “Is this the male driver from the single vehicle collision?”

“Yes, it is,” responds James. “I believe his name is Aaron Knoll. I have his wallet and some of the paperwork. We stabilized in the field and I’ll need to complete the paperwork here.”

“They’re waiting for you in Trauma 2,” says Jackie. “Give me his wallet and I’ll get him in the system. Next of kin?”

“We don’t know. It was just him and a female passenger.”

“Thanks. Head to 2. Dr Pierce is expecting you and they’re set up and ready.”

The two paramedics navigate the stretcher through the doors at the back of triage and into the trauma area. Looking in at Bay 1, they see the female passenger getting an X-ray. Moving a bit farther down the hallway, they turn the corner
into Trauma bay 2.

“Good evening, Dr. Pierce.”

“Hello, James. What have you brought us this fine evening?”

“This is Mr. Aaron Knoll, driver of a single motor vehicle collision on Hemlock and Willow. Air bags deployed. Was wearing his seat belt. Fire had to remove the roof and doors for extraction. We placed a hard collar and he is on a backboard. Vitals are sinus tachycardia at 130, resp rate at 32 last check, SpO2 90% on 10 LPM rebreather, BP 90/70. Lacerations to scalp and primary survey did not show any additional injuries to limbs. My partner found that his abdomen is tender and firm. Initial GCS is 13/15 and he has not fully regained consciousness, but is now moving all limbs spontaneously. We have not given him any analgesics. He has received two liters of D5NS[1]. No next of kin notification. Anything else, Dr. Pierce?”

<table>
<thead>
<tr>
<th>Day: 0</th>
<th>Pulse Rate</th>
<th>Blood Pressure</th>
<th>Respiratory Rate</th>
<th>Temperature</th>
<th>O2 Saturation</th>
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<tbody>
<tr>
<td>Time: 23h30</td>
<td>130</td>
<td>90/70</td>
<td>32</td>
<td>–</td>
<td>90% 10 LPM</td>
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“No, let’s get him on the bed and give him a closer look,” replies the doctor.

The paramedics and the nurses move Aaron over to the hospital trauma bed. He moans quietly as he is repositioned.

Acting quickly as a team, the two Emergency nurses begin cutting off Aaron’s clothing, hooking him up to the monitor, and checking his IV site. The respiratory therapist checks the oxygen flow and auscultates his chest. In under five minutes, Aaron is on the telemetry monitor, covered with a light sheet. Vital signs are charted and communicated to Dr. Pierce.

“Ok, he looks like he’s waking up a bit more now. BP is still a bit lower than I would like to see. Ingrid, start a second IV and draw the usual trauma bloodwork. Give me a glucose now in case we’re dealing with some sort of diabetes issue.”

Ingrid easily starts a 16 gauge IV in the opposite ACF the paramedics used. She draws eight tubes of blood and hangs normal saline wide open. "Dr. Pierce, the blood glucose is 10."

“Thank you, Ingrid.” Looking over at the RT, the doctor asks, “How does the chest sound?”

“So far, pretty good,” Ingrid replies. “Good air entry to the bases, equal throughout, and no extra sounds. On 95% rebreather with equal expansion. Sats are 99% right now and I’ll begin to titrate the FiO2 down.”

“Great. When you get the FiO2 below 70%, draw an ABG to see where we are.”

Dr. Pierce moves closer to the patient and begins an assessment of his limbs and trunk. Finding nothing abnormal with the limbs, he moves to the abdomen and finds Aaron guarding, abdomen firm, no bowel sounds, and some bruising over the left upper quadrant.

“The BP is coming up a bit with the fluid. Let’s see what the HGB is before giving any blood here. I’d like to clear his C-spines and see what is going on in his abdomen. How is urine output right now?”
“Foley has been in about five minutes and we have 200 cc of light coloured urine,” says the nurse. “Sample has been sent.”

“Fantastic. I’ll go out and contact the radiologist-on-call and see if we can get a CT scan done pronto.”

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**Time: 01h00 (2.5 hours post-MVC)**

Glen, the porter from the X-ray Department, enters Trauma 2 and announces that the CT technologist is now ready for Aaron Knoll.

Ingrid looks up. “Hey, Glen. Thanks. Are you helping to get us to CT?”

“Yeah, it’s been a slow night up till now.”

“Maybe for you. We’ve been swamped down here.” Looking at the RT, Ingrid asks, “You ready?”

“Yes, let’s go.”

Grabbing all the paperwork from the desk, Ingrid indicates she is ready as well.

The three push and pull the stretcher through the Emergency Department and out the back doors to the elevator that will take them directly to the X-ray Department.

Once in the X-ray Department, Glen indicates the hallway to the right of the reception desk. “They have CT 3 ready. The other room has the female passenger in it.”

Ingrid nods and guides the stretcher down the hallway to find the CT technologist holding the door open for them.

“Good morning, Ingrid. How’s your night? Is this Aaron Knoll?”

“Been busy and yes. Did you get called in?”

“Yeah, two of us due to the accident and some other issues going on this evening.”

“Wow. Ok, Dr. Pierce did the req, but we want to clear the C-spine to see if anything is going on inside his head and see what is happening with the abdomen, as he is quite tender,” Ingrid reports. “Urine output has been good. Labs indicate no renal insufficiency, so we can use dye for the abdomen. No dye for the head scan, because, as you know, contrast and blood look too similar on the scan. Helical scan, because that is faster, and then we can reformat the images.”

“Great. Let’s check for cerebral bleeding before abdominal. Move him onto the table with his head to go into the scanner first.” Ingrid and the technologist work together using the CT scan trauma protocol.

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**Time: 02h00 (3.5 hours post-MVC)**
"Can you help me. I’m looking for my son?"

Jackie looks up to see a very anxious woman who has obviously been crying. “Can you tell me your son’s name?”

“Aaron. Aaron Knoll. I’m his mother. Is he alive? Oh, please don’t tell me he’s dead!”

“No, Mrs. Knoll, your son is not dead. He is here in the Emergency Department,” Jackie says reassuringly. “I’m going to get Dr. Pierce to talk to you and then take you to see your son.”

“Oh, thank goodness.” Mrs. Knoll looks relieved. “What about his girlfriend?”

“I’m sorry, but I can’t say anything further. Let me get Dr. Pierce.”

A few minutes later, Jackie comes back to the waiting room and guides Mrs. Knoll to the family room.

“Dr. Pierce, this is Mrs. Knoll.”

“Hi, Mrs. Knoll,” greets Dr. Pierce, shaking her hand. “This is Ingrid, one of the nurses that is helping me care for your son.”

“Oh, my. What happened?”

“Please sit down,” he says and guides Aaron’s mother to a chair. “So, about three and a half hours ago your son was in a single vehicle collision not far from what we think is his girlfriend’s house. The car was significantly damaged. He was unconscious at the scene, but is slowly waking up. We have done some tests and it looks like he will need surgery for some internal bleeding.”

“Oh, no. That’s awful. Will he be all right? When can I see him?”

“We are hopeful that with surgery and some time to recover, he’ll be ok. However, many things can happen in the meantime, and he’ll need a lot of support to get better.”

“I’m feeling a bit overwhelmed right now,” says Mrs. Knoll. “He never drinks and drives. How did this happen?”

“Mrs. Knoll, he was not impaired by alcohol or drugs,” the doctor says reassuringly. “Our best guess right now is that he fell asleep while driving, but only he can tell us when he wakes up.”

“He will wake up, right?”

“We believe so. At this point, it looks like a concussion. The CT scan did not show any damage to his head or neck. As time goes by, we’ll know more. There is reason to hope for a full recovery. Like I said, though, things can happen in the meantime and he will need a lot of support to recover.”

“Oh, I think I’m getting it. He’s seriously hurt and will take a long time to get better, and there may be complications that you can’t see.” Mrs. Knoll looks at the floor as she tries to take in the information.
“Yes, that is correct. He is young, which often means a better outcome than if he were my age.”

“Can I see him now?”

Ingrid stands up and moves closer to Mrs. Knoll. “Yes, let me show you where he is and explain some of the equipment at his bedside. I believe the surgeon will want to talk with you as well.”

Ingrid then leads Mrs. Knoll out to Trauma 2 to see Aaron.

“Mrs. Knoll, before we go in, you need to be aware that there is a lot of equipment around him and that there will be quite a few people coming in and out of the room. Not all will introduce themselves or even interact with you. It is taking quite a few health professionals to look after your son. It’s stressful for us to see your son this way as well.”

“Ok, ok.” Mrs. Knoll nods as she talks. “Can I just see him now?”

“Follow me.” Ingrid takes Mrs. Knoll around the corner into Trauma 2. There she sees her son lying flat on a stretcher with a clean, white sheet over top of him. Wires snake out from under the sheet to the monitor on the wall. Clear IV tubing goes from bags hanging on hooks, through blue coloured IV pumps, down under the sheet to Aaron’s arms. Clear plastic tubing is at the end of the bed with light yellow liquid in it.

“Oh, my. He looks so ill. What are the bandages on his head for?”

“Most likely he hit his head on the steering wheel before the air bags deployed, or on the side window,” explains Ingrid. “He has a couple of cuts there that we had to suture.”

“Will he have scars? He has such a handsome face.”

“I’m not sure. It depends on how he heals up. It’s a bit early to be thinking of scars. Let’s get him through the next couple of days and then we can consider whether scarring is an issue.”

“Can I touch him?”

“Most definitely, and please tell him you are here and where he is. Somewhere under there he can hear us, but he is familiar with your voice and trusts you, so hearing things from you will have more meaning for him. Let me get you a chair and you can sit and hold his hand for a little bit.”

Pulling a chair out of the corner, Ingrid assists Mrs. Knoll to sit at the bedside with Aaron.

**Time: 03h00 (4.5 hours post-MVC)**

“Mrs. Knoll? I am Dr. Labinski. I’ve been asked by Dr. Pierce to take a look at your son and take him to surgery to fix some internal bleeding.”

“Yes, I’m Mrs. Knoll. How bad is it?”

“Well, it’s bad enough that they have asked me to take a look and fix it. So it’s serious. Let me explain what I want to do,
and then if you can sign the consent, we’ll get him up to surgery and hopefully have him on the road to recovery quite soon.”

Dr. Labinski then explains to Mrs. Knoll that Aaron has mostly likely torn part of his spleen, and that without surgery he will continue to bleed. He’s lost a bit of blood but is reasonably stable now. However, this won’t continue without surgery. He also explains the risk for anaesthesia, infections, and scarring, along with the chance of further bleeding that can’t be stopped in the operating room.

Mrs. Knoll signs the consent form.

“I’m now going to go up to the OR to let them know that we’re going to do his surgery tonight, within the next 60 minutes, I would say. I’ll phone you when we’re done. I strongly encourage you to either go home for a couple of hours or ask Ingrid if you can sleep in the family room. You’re going to need some rest. Aaron will need your support when he wakes up. I expect the surgery will take about two to three hours, then about four hours in the recovery room, and then up to the surgery floor, so you’ll be able to see him around 10am.”

“Ok. I don’t feel right leaving, so I’ll talk with Ingrid.”

“That’s fine. I will phone you after.”

With that, Dr. Labinski leaves Trauma 2 and heads to the OR.

1. normal saline with dextrose 5%