Meryl wakes up suddenly. *Something’s not right*, she thinks to herself. *Oh my heart is beating so quick. I can’t catch my breath. What the hell is going on?* Where is that damn call bell? Looking around her bedside in the dark, she finds the call bell and pushes it. A few minutes later she sees a flashlight waving around on the floor as it approaches her bedside.

Siri peeks around the corner of the curtain to find Mrs. Smith sitting upright in bed breathing rapidly and looking quite panicked.

“Well, Mrs. Smith, things don’t look right. How are you feeling?”

“I don’t feel good at all. Not sure why. I feel short of breath and I feel like my heart is just pounding.”

“Oh, let me turn the lights on here and give you a good once over.”

Siri turns the lights on over the bed, considers the monitor, and sees Meryl’s heart rate at 100. Saturations are less than 88% on room air. *Something isn’t right*, she says to herself. *I wonder what’s going on?*
“I’m going to take your blood pressure and listen to your heart and lungs.”

Siri listens to Meryl’s chest and hears substantially more crackles than at the beginning of the night shift. The BP cuff beeps and the monitor shows 90/50.

<table>
<thead>
<tr>
<th>Day: 3</th>
<th>Pulse Rate</th>
<th>Blood Pressure</th>
<th>Respiratory Rate</th>
<th>Temperature</th>
<th>O₂ Saturation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 03h00</td>
<td>100</td>
<td>90/50</td>
<td>24</td>
<td>36.5°C</td>
<td>88% RA</td>
</tr>
</tbody>
</table>

“Ok, something is not quite right Mrs. Smith. Let’s put you on a bit of oxygen. I’m going to ask the RT to see you, along with Dennis the senior resident. I expect we are going to do a chest X-ray and another ECG and some labs to see what’s going on.”

“If you say so. Oh, why is this happening?”

Siri grabs the nasal prongs hanging on the flowmeter and places them on Meryl’s nose. She turns the flowmeter on to 3 LPM. Not waiting to see what happens, Siri rushes out to the nursing station.

“Can you page the RT for me and find Dennis? I’d like both of them to see Meryl Smith in Room 23.”

“Dennis is just seeing the patient that came in last night at 22:00. I think he’s almost done, but I will let him know you need him. Jackson is the RT covering the floors and I’ll page him now.”

“Thanks.”

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**Time: 03h20**

“Hi, I’m Jackson the RT. You paged?”

Siri turns to see a very tall, smiling male dressed in bright blue scrubs. “Yes we did. Wow, are those the new RT scrubs?”

“Yeah, a bit bright, eh? They tell us they will fade with washing. Same colour as my grad suit was during the high school prom. Not a great colour then and less so today.”

Siri laughs. “Ok. Mrs. Meryl Smith is a 44 year old woman who developed heart failure due to a heart murmur that occurred 16 years ago during her last pregnancy. She was doing fine and came off oxygen 24 hours ago. Just a few minutes ago, she rang and complained of distress and shortness of breath, and her sats were down. I put her on 3 LPM nasal prongs and have not had a chance to double check to see if that worked.”

“Ok. Well, let’s look now.”

<table>
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<tr>
<th>Day: 3</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Time: 03h20</td>
<td>102</td>
<td>92/55</td>
<td>26</td>
<td>36.5°C</td>
<td>90% 3 LPM</td>
</tr>
</tbody>
</table>
Both Jackson and Siri head into Meryl’s room to find not much of a change with saturation around 90% and HR around 100. Latest NIBP is 92/55.

“Hi Mrs. Smith, my name is Jackson and I am a respiratory therapist. I manage oxygen for patients and it seems you might need a bit more. I need to listen to your lungs. Is that ok?”

Meryl just nods.

Jackson listens quickly. “Wow, she is crackly everywhere. I’m going to get a mask and a water bottle. I’m probably going to put her on .5Fi02 and see how she does. Is the doc going to see her?”

“I’ve asked Dennis to come in and review, which I hope is soon.”

Just then Dennis walks in. “How is this for soon?”

Siri smiles “Pretty good. Jackson is going to place her on oxygen. She woke up in distress about 15 minutes ago. HR is up, BP is up, and saturations are down. She is complaining of SOB and not feeling quite right.”

“Ok. Jackson, what did you hear chest-wise?”

“She is crackly in all fields. I’m going to place her on .5 mask and see how she does. Resps are about 26 per minute right now.”

“Thanks, I’ll order a CXR and [12 Lead], with CBC, lytes, BUN, creatinine along with a troponin to see if this is an MI. After I look at the CXR, I may order some Lasix as she may be having an exacerbation of heart failure.”

Siri stays with Meryl while Jackson gets the oxygen mask and Dennis writes the stat orders.

Over the course of the next hour, Meryl’s saturations improve to 93% on .5 FiO2. A chest X-ray is complete, a 12 lead is done, and all morning lab work is completed.

Siri and Dennis are both looking at the CXR and the 12 Lead. “Ok, Siri what do you see on the CXR?” Dennis asks.

“Well, comparing it to yesterday, she seems to have a lot more infiltrates generally. There doesn’t seem to be a pattern nor does she have a temperature or cough so I think, for some reason, she is retaining more fluid or her heart is not pumping very well.”

“Excellent. I agree as well. Let’s look at her 12 lead.”

Both professionals compare the last two days’ 12 leads with the one taken a few minutes ago.

“Same question, Siri. What do you see?”

“Well, comparing all three ECGs, they all look the same. If we are looking for an MI, I don’t see any ST elevation nor Q waves on tonight’s ECG. She could be having a NSTEMI I guess.”

“That could be happening, but I’m suspecting it’s something else. I wonder if the trop is back yet.”
Dennis pulls up the computer and looks under Meryl Smith’s lab work. “Awesome. Look here: no troponin detected. So, no MI. Let’s give her 40 mg IV Lasix now and if she responds really well, just follow up with her normal AM dose. If she has a limited response, say less than 1500 cc urine in the next three hours, let’s double the dose. But talk to me first before doing so. I’ll write the order for the 40 mg direct IV.”

“Ok, something happened here. I’ll go see how she’s doing and talk with her.”

Time: 04h30

“How are you feeling now Mrs. Smith? I am going to give you some Lasix that will make you want to pee quite a bit for the next little while.”

“Ok, is the commode close?”

“Yes it is, but I want you to call if you need to get up. Just want to make sure nothing happens or you slip. Ok, here goes the medication. Has to go in quite slowly.”

Siri very slowly pushes the 40 mg IV over the next 5 minutes into Meryl’s IV.

“So all those tests we did show you did not have a heart attack, but show that your heart is not pumping as well as it was yesterday. Anything different happen?”

Meryl sighs and looks sheepishly at Siri. “Dorothy and I celebrated just a little after dinner before you came on shift.”

“What do you mean?”

“Well, Dorothy brought me fries and a large milkshake, you know one of the big ones.”

“Oh my. Ok, I think I know what happened. Addy talked to you about salt and water, did she not?”

“Yes. I am not supposed to have too much of either.”

“Yes, no extra salt and we’re watching your fluids very carefully. So the extra salt from the fries caused your body to hold onto fluid, then the extra big milkshake gave you more fluid than your heart could handle, causing your heart to be overstretched and not pump well. The Lasix that I’m giving you will help, but you can’t do things like this.”

“Yes, I know that now. Thank you. Are you going to talk with Dorothy?”

“No tonight. But I think you both need to meet with Addy and Stella.”

“Ok.”

Time: 06h30

Siri helps Meryl back to bed for the eighth time since the Lasix has been given.
“Oh, I feel so thirsty.”

“Yes, here is some water. Just take a sip and rinse it around your mouth before swallowing. That will help with some of the dryness.” Siri removes the pan from the commode and measures the urine. That gives us a total of 2200 cc since 0430. Not bad, she says to herself.

“Ok, about two liters out. How are you feeling?” Siri checks the monitor and sees the heart rate below 90 and saturations sitting at 99% on the .5 FiO2.

<table>
<thead>
<tr>
<th>Day: 4</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: 06h30</td>
<td>88</td>
<td>110/75</td>
<td>20</td>
<td>36.5°C</td>
<td>99% .5 FiO2</td>
</tr>
</tbody>
</table>

“Much better,” Meryl says. “Feels like I’m back to where I was yesterday.”

A few minutes later Jackson comes in to check on Meryl.

“How you doing now? Wow — 99%. Let’s see if we can get you off the mask and onto something more comfortable or maybe even off oxygen.” Jackson removes the mask and replaces it with nasal prongs at 3 LPM.

“I’ll be back in 10 minutes to see how you are doing.”

**Time: 06h45**

“Ok, Mrs. Smith, your sats are 96% on 3 LPM. Let’s take you off the oxygen. I’ll ask my day shift counterpart to check on you when they come in, but I think you don’t need the oxygen anymore now that you got rid of all that fluid.”

“Thank you. I feel so guilty. I did this to myself and I thought I knew better.”

“Hey, now you know. Have a good morning Mrs. Smith.”

**Time: 07h30**

“Hi Simone, back again?”

“Yeah, Philippa wanted to trade her day shift for a night. Something to do with a school outing, I think.”

“Very happy to see you. Should be an easy report.”

“Thanks Siri.”

“Ok, everyone had a good night except Meryl Smith, but will get to her in a minute. Beds 2 to 6 are ready for discharge as soon as the morning labs are back. Discharge orders are written. If labs are normal, they are good to go. I have phoned all the family and they are aware to come and pick them up. I have updated my charting and everything should be a go for them.”
“Thank you very much. Now what happened with Meryl?” Simone asks.

“The evening started out well. HS meds and care, she was doing fine. Did not need any assistance to commode. Then at 03:00 she wakes up not feeling right, SOB, sats down, chest sounding quite crackly throughout, and did not look exactly right. RT up, placed on FM at .5 Fi02, stat blood work, CXR, and the resident in to see her. Appeared to be having either an MI or acute exacerbation of HF. Labs came back with trop negative, 12 lead unchanged but CXR showed increased infiltrates. Had a bit of a discussion with her and it seems her and her partner celebrated how well she was doing with fries and an extra large milkshake. Looks like this tipped her over the edge. She received 40 mg IV Lasix. Diuresis of 1.5 L out and this morning is off oxygen with sats of about 93%. She feels pretty guilty. I think social work and Addy from dietary need to come and talk with both her and Dorothy to do some teaching.”

“I agree,” nods Simone. “When they were talking yesterday the conversation seemed a bit too easy. More teaching is definitely needed.”

“Ok, Simone, that’s it for me. This is my last night shift so maybe see you next week. Have a great shift.”

“Thanks Siri, I hope you get some sleep.”

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**Time: 08h10**

_The discharge patients are all up and dressed, Simone says to herself. Breakfast trays delivered. So they should be good. Right. Let’s go see Meryl and see how she is doing._

Simone double checks that she has the right meds, remembering yesterday that the beta blocker was adjusted.

Entering the room, she finds Meryl sitting up in bed looking much better than yesterday morning, despite the events of the night shift.

“How are you feeling Mrs Smith?”

“Much better thank you. I imagine you know what happened last night.”

“Yes I do. How do you feel about that?”

“Very embarrassed and a little scared.”

“I can believe that. Here are your meds for the morning. It looks like your heart rate is good at 65. Let’s do your blood pressure and then afterwards let’s talk about last night.”

“Ok. You aren’t mad, right?” says Meryl.

“Definitely not. I just want to help you develop a better understanding of your disease and see what we can put in place to prevent these sorts of things happening again.”

“Thank you.”

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https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Health_Case_Studies_(Rees_Kruger_and_Morrison)/05%3A_Case...
Over the course of the morning, Meryl discusses her feelings with Simone and seems to show a deeper understanding of heart failure and the implications. When Dorothy comes in, Addy and Stella meet with the two women and provide counseling and coping strategies.

The next three days show great improvement with Meryl. On the fourth day, she is discharged home, with appointments for follow up to the health heart clinic.