



Distributing Cognition

ICU Handoffs Conform to Grice's Maxims

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Introduction

Coordinating clinical work, authority, & responsibility are critical to ICU patient care. The complexity and uncertainty of peds ICU patients require efficient communication between practitioners cycling work through shifts. Work-cycle shift change is a potential source of gaps in the continuity of care [1]; the quality of shift change handoffs has implications for patient safety. We present the early results of an ongoing study of coordination and handoffs across a group of ICU fellows.

Hypothesis / Methods

This study, part of ongoing research, characterizes the coordination of clinical work across shift boundaries in a PICU. It examines the nature of scheduled exchanges of authority and responsibility [2]. We anticipated that communications among practitioners would adhere to Grice's maxims [3] of quantity, quality, relation, and manner, and that handoffs would be heavily invested in patients with higher levels of uncertainty and criticality.

Results

Handing over responsibility and authority occurs using communication strategies tailored to support the distribution of cognition across time and space; handoffs are conversations rather than reports. Handoff content varies but exchanges conform to Grice's maxims with high context sensitivity, compact reference, gestures, and stylized expressions.

Conclusions

Practitioners necessarily distribute cognition in order to prevent gap formation during work-cycle shift changes. These processes are reminiscent of the handoffs that occur in combat information centers in U.S. Navy warships [4]. ICU work-cycle characteristics place a high premium on efficient communications between practitioners, and they meet this need through communications with Gricean characteristics.

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References

1. Cook, Render, Woods: Gaps in the Continuity of Care, BMJ 2000
2. Woods in Klein et al: Decision making in action, Ablex 1993
3. Grice: Studies in the Way of Words, Harvard 1991
4. Klein: Sources of Power, MIT 1999

Why are hand-offs like this?

Acute health care is similar to other complex high stakes technical work. We use language in certain ways to manage this complexity. Hand-off language follows Grice's four maxims because in acute health care:

- The ICU and its patients are complex. It is impossible to fully describe everything that is relevant.
- There are specific details that matter but these vary from patient to patient and from time to time.
- Circumstances are changing so rapidly that the content of a handoff will be stale within a short time.
- The ICU and its patients are beset by uncertainty. Handoffs include information about the nature and scope of the uncertainty.

Maxim: Quantity

Provide as much information as needed in a context but not more

Hand-offs use compact reference to manage quantity

One critically unstable patient

J: Yeah, he is fine. Nothing happened with him overnight. This new little boy ... is a ...

M: yeah, what's the

J: seven-and-half month old ex-25-weeker whose NICU course was complicated by uhhh multiple incarcerated hernia's and multiple abdominal surgeries. He made it through all off that, was discharged to home, uhhh, a little while ago, was brought to... [pause]

M: are they starting rounds? [we are standing at the nurses station, looking at attendings and residents congregating around another pt's bed]

J: we're supposed to start around 8.30 but...

M: ok

J: well L. [pt whose bed they are standing at] is fine so

M: ok

J: uhhh

M: this patient got brought..

J: It got brought to [name of another hospital] on Christmas day with abdominal distention and vomiting, was sent home, diagnosed with gastro. Got acutely worse, more pain, more distention, blah blah blah at home, was brought back, was transferred to [name of a second hospital] were he had respiratory failure, was intubated, and then had emergency surgery at the bedside and was found to have dead gut [unintelligible] lots of dead gut. So they resected a bunch of it, transiently seemed to improve, uhhh, was still on pressors, looking, septic, no positiv

J: but not covered

M: Yeah, ok

J: decreasing urine output, decreasing blood pressures, called us for ECMO evaluation, so I actually went over and picked him up

M: [unintelligible] in the helicopter?

J: no we didn't fly, we drove.

M: oh, ok

J: uhhh, and brought him back here. Called D., who came in, he's like this is not, this kid is not an ECMO candidate; he run his gut, he's got 44cm of gut left. uhhh it does not look fabulously perfused, and he put the silo up

M: ok

J: uhhh, so kind of from the organ systems approach: cardiovascularly we were doing ok until the last 5 minutes of the transport where he became more hypotensive, not really responding to volume. Got here, we went up on his pressors and added epi which he responded to for a brief period of time throughout the course of the evening; he's arrested twice; uhhh he's got chest compressions twice. Now what happens he drifts his blood pressure down, give him one dose of high dose epi and he comes back up and he lingers there for a little while, he's had no [unintelligible] bradycardia, uhhh pause... and he's had no more arrhythmias. With that, uhhh when his blood pressure goes up his sats tend to go back up with that

M: ok

J: meanwhile, from a respiratory standpoint, we're maxed on the ventilator; he's on 40ppm of nitric, he's on a rate of 36, uhhh tidal volume of 90, uhhh peak pressures are in the mid 40's

M: ok

J: and that's about the best we've been able to do. uhhh Bad wet lungs. Just M:ok

J: bad lungs, we're not able to oxygenate well at all. We're at 100%.

Ventilation had not been a problem until the last gas, where his pH is 7.1 and uhhh, his pCO2 had drifted up into the 70's and that's the first time ventilation had really been a big issue. So I went up on his rate, see what the next gas shows. Lactates have been steadily climbing. They're now 14.6

M: that's bad

J: He's gotten lots and lots and lots

M: Bicarb

J: of Bicarb. He's also gotten lots and lots of Calcium for hypotension

M: ok

J: which helps him a little bit; he's now coming back down into a more normal calcium range, he was pretty hypercalcemic for a while... uhhh [pause] hem wise, he's gotten one 15 per kilo red cell transfusion here, he got two packs of platelets, he's gotten 40cc of cryo, he's gotten 250cc of FFP, and he remains coagulopathic. His first set of coags here are an INR of 3.35, this morning were 2.1, and so I just gave him more cryo, more FFP for that. His fibrinogen levels have been like 110-115

M: ok

J: so really low

M: did the parent...

J: Yeah, he oozes from everywhere

M: ok

J: urine output has steadily dropped to like really minimal. It's grossly bloody. He's got grossly bloody secretions from his endotracheal tube as well. Uhhh, he's on amp gent and flagyl The gent I held

M: I am gonna go because they're gonna talk

J: Yeah, he's got a level ordered for later today

M: ok, he's a full court press

M: ok, anything else major? this is ??

Five critical patients

[standing at the nurses station]

J: no, I. got reintubated this morning at about 6.30.

(Nods/ points in the direction of the patient)L. is fine.

(Nods/ points in the direction of the patient)Fine.

(Nods/ points in the direction of the patient)Fine.

(Nods/ points in the direction of the patient) Had some climbing pCO2's we played with the vent, she's better

M: ok; who's that?

J: and then, J. came down here,

M: oh ok

J: she had a pCO2 of greater than 105

M: ok thanks

J: there is 2 kids in step down [pause] by the way. There is a two year old that got beat up

M: correct

J: (Nods/ points in the direction of the patient)Liver lac.

(Nods/ points in the direction of the patient)Stable.

M: thanks J.

J: high LFT's, two thousands.

M: great, great way to

What this hand-off is not

A routine review of vital signs that is fixed in content and duration

What this hand-off is

A conversation of length and density that depends on patient population size and acuity and varies from extended monologue summaries to casual interchanges

For more information on this and other topics in patient safety, visit <<http://www.ctlab.org>>

Maxim: Relation

Make your contribution relevant to the context in which you are speaking

Hand-offs use gestures to convey information efficiently

Gestures to two patients	R: a wandering pacemaker and this or that M: oh really, vital signs stable? R: before I forget, this kid needs an echo, this kid needs an echo [pointing to kid across the room], when J. asks. Vital signs are stable, everything is ok, I did an EKG M: why do they need echo's? did something happen or just? ***** M: looks like she is on R: her name is T., she was fine until midnight, she was only on continuous M: was she in stepdown and came here? R: I think she came from [name of another hospital] M: ok R: T. sent her, now she is on Heliox, terbutaline at .4, and she is hanging in there M: ok R: she may get worse, I did not have to do BiPAP M: ok R: ok her, before I forget, everything went well in the OR, she came back M: what time did she come back? R: hm? ***** R: we just discussed it, I don't know if Randy wrote it or not ok. Then he wanted another set of LFT's, I told her already ok so.. big picture.. uhhh, good liver, good anastomosis, the platelets are low, but we are not going to give platelets obviously. liver transplant kids we do not like to transfuse alot of platelets or bloodproducts. hemoglobin stable, JP's are not draining that much urine output was kind of slowing down a little, I don't know for this morning, the last couple hours, [turns to RN] "what was her urine output S.? for the last couple hours?" RN: it's dwindled down to 30 an hour R: but it's there, if it goes any lower it may be an issue for you, she was on a lasix drip before she went to the oR, her last creatinen was 2.1, 2.2 before she went to the OR, so you may have to look into that M: ok R: uhhh *****
Gestures to other hospital unit	M: well I think in the first couple days of life you still have pulmonary uhhh R: so whatever it is, keep an eye on it M: [pointing to empty bed space] was he still here when you where here? R: ya, uhhh, it was so morbid, I had to take the bolt out, the neurosurgery resident didn't want to come in to take the bolt out, which I understand, he was dead already and the nurse did not want to do it, so I had to do it M: you had to do what? R: take the bolt out, no big deal, it's not a big deal but, when I saw him he was like dead then I had to take it out at three in the morning M: [unintelligible] R: she seized like four small seizures at like 5 in the morning, I said call M., I don't know what to do. Him M: oh, yeah R: his X-ray you should see this morning it's interesting. It's always been unequal, K. said again, think about foreign body M: right right R: but there could be an effusion on the left cause you see a line, so I told K. we should do an ultrasound and she agreed so, do an ultrasound *** R: 2 year old has a skull fracture with a very small epidural M: [unintelligible] R: from ER, J. started acting out, no access, so I put in a central like M: she did this a couple days ago, then got better so that's fine R: so the other things I have done, decrease her rate so to give her more time M: yeah RN: because the other night it helped RN: did you see the last gas at five? R: ya, so if it's that much on the venous, I'm sure the arterial is better, which i's not bad for her, uhm but versed drip, terbutaline drip, magnesium, she was really bad M: ok R: ok, she looks much better compared to last night, [turning to RN] "do you agree I.?" "does she look better?" RN: oh yeah Other RN: did she get a chest X-ray? R: sedation is the issue here, I think she got really ticked off, and we should go really really slow when we wean her sedation, because this is the second time on my call night I have to do all this M: we plan it like that, we like to challenge you [chuckles] *** [walking to next room] M: Caroline (in hall), you are in so deep trouble, girl, you better go in hiding today R: what did she do? C: (UI) M: laugh, I know where to find you, you better have a good reason girl C: I feel so so bad, you got your hair cut; we have not seen each other M: how are you
Gestures to patient by referring to empty bed	M: well I think in the first couple days of life you still have pulmonary uhhh R: so whatever it is, keep an eye on it M: [pointing to empty bed space] was he still here when you where here? R: ya, uhhh, it was so morbid, I had to take the bolt out, the neurosurgery resident didn't want to come in to take the bolt out, which I understand, he was dead already and the nurse did not want to do it, so I had to do it M: you had to do what? R: take the bolt out, no big deal, it's not a big deal but, when I saw him he was like dead then I had to take it out at three in the morning M: [unintelligible] R: she seized like four small seizures at like 5 in the morning, I said call M., I don't know what to do. Him M: oh, yeah R: his X-ray you should see this morning it's interesting. It's always been unequal, K. said again, think about foreign body M: right right R: but there could be an effusion on the left cause you see a line, so I told K. we should do an ultrasound and she agreed so, do an ultrasound *** R: 2 year old has a skull fracture with a very small epidural M: [unintelligible] R: from ER, J. started acting out, no access, so I put in a central like M: she did this a couple days ago, then got better so that's fine R: so the other things I have done, decrease her rate so to give her more time M: yeah RN: because the other night it helped RN: did you see the last gas at five? R: ya, so if it's that much on the venous, I'm sure the arterial is better, which i's not bad for her, uhm but versed drip, terbutaline drip, magnesium, she was really bad M: ok R: ok, she looks much better compared to last night, [turning to RN] "do you agree I.?" "does she look better?" RN: oh yeah Other RN: did she get a chest X-ray? R: sedation is the issue here, I think she got really ticked off, and we should go really really slow when we wean her sedation, because this is the second time on my call night I have to do all this M: we plan it like that, we like to challenge you [chuckles] *** [walking to next room] M: Caroline (in hall), you are in so deep trouble, girl, you better go in hiding today R: what did she do? C: (UI) M: laugh, I know where to find you, you better have a good reason girl C: I feel so so bad, you got your hair cut; we have not seen each other M: how are you
Gestures to nurse	R: his X-ray you should see this morning it's interesting. It's always been unequal, K. said again, think about foreign body M: right right R: but there could be an effusion on the left cause you see a line, so I told K. we should do an ultrasound and she agreed so, do an ultrasound *** R: 2 year old has a skull fracture with a very small epidural M: [unintelligible] R: from ER, J. started acting out, no access, so I put in a central like M: she did this a couple days ago, then got better so that's fine R: so the other things I have done, decrease her rate so to give her more time M: yeah RN: because the other night it helped RN: did you see the last gas at five? R: ya, so if it's that much on the venous, I'm sure the arterial is better, which i's not bad for her, uhm but versed drip, terbutaline drip, magnesium, she was really bad M: ok R: ok, she looks much better compared to last night, [turning to RN] "do you agree I.?" "does she look better?" RN: oh yeah Other RN: did she get a chest X-ray? R: sedation is the issue here, I think she got really ticked off, and we should go really really slow when we wean her sedation, because this is the second time on my call night I have to do all this M: we plan it like that, we like to challenge you [chuckles] *** [walking to next room] M: Caroline (in hall), you are in so deep trouble, girl, you better go in hiding today R: what did she do? C: (UI) M: laugh, I know where to find you, you better have a good reason girl C: I feel so so bad, you got your hair cut; we have not seen each other M: how are you
Gestures to attending	R: his X-ray you should see this morning it's interesting. It's always been unequal, K. said again, think about foreign body M: right right R: but there could be an effusion on the left cause you see a line, so I told K. we should do an ultrasound and she agreed so, do an ultrasound *** R: 2 year old has a skull fracture with a very small epidural M: [unintelligible] R: from ER, J. started acting out, no access, so I put in a central like M: she did this a couple days ago, then got better so that's fine R: so the other things I have done, decrease her rate so to give her more time M: yeah RN: because the other night it helped RN: did you see the last gas at five? R: ya, so if it's that much on the venous, I'm sure the arterial is better, which i's not bad for her, uhm but versed drip, terbutaline drip, magnesium, she was really bad M: ok R: ok, she looks much better compared to last night, [turning to RN] "do you agree I.?" "does she look better?" RN: oh yeah Other RN: did she get a chest X-ray? R: sedation is the issue here, I think she got really ticked off, and we should go really really slow when we wean her sedation, because this is the second time on my call night I have to do all this M: we plan it like that, we like to challenge you [chuckles] *** [walking to next room] M: Caroline (in hall), you are in so deep trouble, girl, you better go in hiding today R: what did she do? C: (UI) M: laugh, I know where to find you, you better have a good reason girl C: I feel so so bad, you got your hair cut; we have not seen each other M: how are you
Gestures to another unit	R: his X-ray you should see this morning it's interesting. It's always been unequal, K. said again, think about foreign body M: right right R: but there could be an effusion on the left cause you see a line, so I told K. we should do an ultrasound and she agreed so, do an ultrasound *** R: 2 year old has a skull fracture with a very small epidural M: [unintelligible] R: from ER, J. started acting out, no access, so I put in a central like M: she did this a couple days ago, then got better so that's fine R: so the other things I have done, decrease her rate so to give her more time M: yeah RN: because the other night it helped RN: did you see the last gas at five? R: ya, so if it's that much on the venous, I'm sure the arterial is better, which i's not bad for her, uhm but versed drip, terbutaline drip, magnesium, she was really bad M: ok R: ok, she looks much better compared to last night, [turning to RN] "do you agree I.?" "does she look better?" RN: oh yeah Other RN: did she get a chest X-ray? R: sedation is the issue here, I think she got really ticked off, and we should go really really slow when we wean her sedation, because this is the second time on my call night I have to do all this M: we plan it like that, we like to challenge you [chuckles] *** [walking to next room] M: Caroline (in hall), you are in so deep trouble, girl, you better go in hiding today R: what did she do? C: (UI) M: laugh, I know where to find you, you better have a good reason girl C: I feel so so bad, you got your hair cut; we have not seen each other M: how are you
Gestures to social relationship	R: his X-ray you should see this morning it's interesting. It's always been unequal, K. said again, think about foreign body M: right right R: but there could be an effusion on the left cause you see a line, so I told K. we should do an ultrasound and she agreed so, do an ultrasound *** R: 2 year old has a skull fracture with a very small epidural M: [unintelligible] R: from ER, J. started acting out, no access, so I put in a central like M: she did this a couple days ago, then got better so that's fine R: so the other things I have done, decrease her rate so to give her more time M: yeah RN: because the other night it helped RN: did you see the last gas at five? R: ya, so if it's that much on the venous, I'm sure the arterial is better, which i's not bad for her, uhm but versed drip, terbutaline drip, magnesium, she was really bad M: ok R: ok, she looks much better compared to last night, [turning to RN] "do you agree I.?" "does she look better?" RN: oh yeah Other RN: did she get a chest X-ray? R: sedation is the issue here, I think she got really ticked off, and we should go really really slow when we wean her sedation, because this is the second time on my call night I have to do all this M: we plan it like that, we like to challenge you [chuckles] *** [walking to next room] M: Caroline (in hall), you are in so deep trouble, girl, you better go in hiding today R: what did she do? C: (UI) M: laugh, I know where to find you, you better have a good reason girl C: I feel so so bad, you got your hair cut; we have not seen each other M: how are you

What this hand-off is not

A series of discussions about each patient at each patient's bedside

What this hand-off is

A discussion of the entire unit while remaining at nurse's station, discussing one patient while standing at another's bed and discussing patients in other departments while in PICU.

Maxim: Manner

Speak as clearly as possible, avoid ambiguity

Hand-offs use stylized protocols and expressions to maximize accuracy

Dense, encoded brief	M: yeah, so she seized a lot; they turned the Propofol off yesterday at 12; her IV has come out, there was a little bit of pus around it, so, actually she pulled it out, so we did not even have to decide, uh, let it come out. She... , the Propofol was turned off yesterday around 12, she started seizing around 4, 4 clusters, not responsive to Valium, or Phenobarb or restart of Propofol. M. came at 5 o'clock this morning, and we're just basically doing more of the same; they really want to break it with Valium, because that 's what she is going home with. But I mean, she is seizing a lot J: Yep M: So and the only access we have is a small peripheral IV in her foot J: last time [unintelligible] vagal nerve stimulator M: right so you have uh J: yep M: just so you know. Uhm .. The ECMO patient you know, she was put back on ECMO, uhm or he was put back on ECMO J: 2.30 Saturday morning M: Yeah, something like that. Doing ok, uhhh, really no significant problems. Lactate had been rising a little bit to like 2.7 but stabilizing there. The only thing was that uhhh platelets uhhh they are accepting lower platelet counts of 50,000 but we've had to transfuse a couple times for platelets like 11 or 14,000 J: ok M: uhhh... the other thing is there was a little bit of swelling on the uhhh J: right leg M: right inguinal area, no, in the inguinal area moving toward the buttocks, over the day. Lisa noticed that. We just .. We put a pressure dressing on, and we kept an eye on it. The pulses are ok, so we're just gonna watch J: ok, uhhh..... alright, what is the gram negativ M: uhm it is S. and uhhh yeah J: where M: everywhere, every single.. uhhh line J: surprise surprise M: it's not good, according to A. once it's in the circuit, it's in the circuit; not good. C., he's basically the same; he's low grade fever, like 38.5 so I did culture him. Uhhh he...he's gonna get a trach at the bedside this afternoon if they get consent and I heard he is going for CT this morning but I just heard that from the nurse but I have not heard J: ok M: anything about that. J: He never went last week because M: ok so maybe that is why J: he just needs a follow-up to see what his ventricles look like M: ok, uhhh, L.. uhhh, she is doing just fine. She is diuresing quite aggressively and obviously needing Potassium supplements J: ok M: I think both of these can be cut back. She is otherwise doing ok. She she starts to through PVC's uhhh when her uhhh Potassium goes down J: less than 2.7 M: Yeah, I think are we giving it now? [talking to RN] RN: no I just sent some , I'll check them in a minute M: ok RN: [unintelligible] M: ok J: 2.7 is her number to start throwing PVC's M: she she islike she needs a higher level than some of the other kids. C. is C., not really anything new. J: extubated, though M: extubated,she is doing good, uhhh, started Captopril, I think the Mirrinone is off, and uhhh, I think they're gonna do a Echo today,so J: [unintelligible] M: [unintelligible] as far as I know J: she looks comfortable M: she looks comfortable [unintelligible] J: [unintelligible] main stem M: she is not very awake or interactive, so, I mean part of it is , I'm sure, weaning sedation but I would have .. I would have liked to see her a little more awake in between. This little one was extubated uhm like early yesteday, not, uhhh early yesteday morning or the day before yesterday. Retracted a little bit, but I think most of the retractions are probably due to withdrawal because all the sedation was stopped J: Oh M: uhhh abruptly J: yeah M: so once they restarted sedation yesterday morning, she did much better; So I really think she can come off uhm CPAP. She's been uhhh J: not breathing very much J: [Pause] M: she is..don't scare me J: [Pause] M: she is J: no, she's just periodic breathing J: [Pause] J: she is comfortable M: she is J: beautiful M: I'm like...don't scare me J: it's only a 10 second apnea [unintelligible]M: ya, she's a baby M: [unintelligible] C. came back I'll tell you later; ok this little girl, she was J: yep M: extubated, but working hard. She intermittently has better air movement than other times; she is on heliox, she is on continuous nebs J: ok M: uhhh..... I think it's her X-ray looks, you know, like a smoke inhalation X-ray J: well then, she's probably got a lot of laryngeal injury if she is anything compared to her sister
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What this hand-off is not

The off-going shift providing a fixed information brief for the on-coming shift.

What this hand-off is

A negotiated discussion in which control is shared, maintained and invited by cues such as the on-coming physician controlling closure through incremental acceptance

Maxim: Quality

Speak true information

Hand-offs protect truth through high sensitivity to the patient context

RN interrupts	H: So this little guy came in from the OR and he had..uhmm..just evidence of clinical coarc essentially so he was taken back to the operating room again at 10.30 with Bacha to ..uhmm ..there was significant gradient like, I guess, 20 mm difference so he was taken back to the OR. Came back on ECMO and have been doing that ever since ***RN: what is that neurology resident's name? or H. H: what? RN: you know what is that neurology resident's name? H, R: M... B...the fellow yeah RN: Oh, she is a fellow? H: yeah, RN: already good??? H: she stole the grey chart? [Laugh] H: that's not ok M. M: she might be in the yellow page book R: yellow, yellow book M: which I have on me
Oncoming fellow probes, gives incremental acceptance	H: So since he got back from the second procedure, just like 1.30 in the morning, the main issues have been blood pressure. His flow is was 540 and they want to keep his blood pressure in high 50's or low 60's and he has required volume to do that. Also he is very calcium sensitive.. like his blood pressure falls. His calcium has been running really low on the gas, like .8-.9 R: are they gonna do a drip on his he's not on a calcium drip H: he is not R: ok H: he's not, uhhh he's been he got...uhmm platelets and FFP. He's been getting blood, his hemoglobin I think is still like 17. [pause] [unintelligible] R: sounds good H: [pause..unintelligible] they have been trying to blend in CO2. It's just that we haven't been aggressive enough so he's had pCO2's of 19, 21,23 like barely climbing up R: right H: his last pH was 7 7 5 R: ok H: but we have to we have to be a little bit more aggressive about that R: sure H: there so we are waiting R: and is he on like kind of minimal vent settings or H: yeah [unintelligible] he is on full support (pause) uhhh D. [unintelligible]otherwise no news with him. He was agitated for a while and he did have some emesis. There was concern about aspiration although his lung exam still sounds good. X-Ray immediately after the vent looked fine. And he'll have an X-Ray this morning that I haven't seen yet R: his urine output is kind of H: still low, I mean it's still down. Not any more down than it has been Y (RN): [unintelligible] H: ok. [unintelligible] R: so the only problem with this patient was the nurse, right H: right, absolutely [unintelligible] You'll be seeing more, party plans But so.. she got her chest closed last nigh...uhmm and really we just been playing with her ventilator, her pCO2's have been rising kind of throughout the night so we just changed it up a little bit this morning. Otherwise she has been great R: excellent H: C., her biggest issue was sedation. She was just all over the place. We are significantly up on her Fentanyl, I think she is at 300, her Versed is at uhhh two-and-a-half uhhh (pause) and then we finally just started a Cis drip because she is going to the operating room today so we just honestly quit messing with it and just started. Otherwise also this morning her pCO2 was 32 so we changed her vent. Uhhh (pause) came down on her rate H [to nurse at bedside] "what is she now?" [unintelligible] RN: she's 34 H: Just keep coming down to like 20 on her rate. Uhhh (pause) this is the same settings that she's been on forever so I don't know the difference except that she's just totally out so that she's not fighting at all or not making any motion against the vent
Announcement, Attending, interrupt	*** Overhead page by RN "Who has the new shedule?" H: [making a non verbal gesture] R: [Laughs] *** MK: This is easy. It's going to be easy. The little trauma H: yes MK: can go down. cause she looks really good. This one?? H: yes MK: and [pause] he could go down. H: ok MK: and T. could go down. Now I am not going [unintelligible] to move anybody till I [unintelligible] the traumas, because once I see the traumas then we'll know H: right, right MK: but [short pause] we got play ****

What this hand-off is not

A seamless transfer of quantitative information, primarily vital signs.

What this hand-off is

A fluid, dynamic exchange that is subject to distraction, interruptions, fluctuates on aptitude of and confidence in off-going and on-coming physician and is contingent on the on-coming physician's confidence in quality, completeness of information