

DESIGN-THINKING FOR HEALTHCARE

GUILT

Lack of baby desages

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INFORMATION

Appard Score

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EXPECTATION

PROCEDURE

TEMPs

Start With Empathy

BIRTH
Plan

Loss of
control

Rushed

checklists

Keeping the
baby @ the
bedside for
longer

Figuring
things out
between medical
team on the

FEAR

Jules Sherman, MFA Design

"Is she
alive?"



25%

of mothers do not
breastfeed immediately
after birth in the US.

- preterm birth
- tongue tie
- lack of sucking reflex
- birth trauma
- other health or attitude issues

Current Practice:



Current Practice:



Expressing into a plastic spoon,



expressing into a tiny vial...









NEED:

A way to allow a new mother with a non-latching baby to collect her colostrum the first 1-3 days after birth in order to encourage lactogenesis and optimal health for the mother/baby dyad.

USABILITY PROBLEM:

Colostrum gets stuck in the valve of the pump, and current containers for hand expression are awkward and confusing. Transfer of colostrum to a syringe (for feeding) is inefficient and non-sterile.

MEANING:

Colostrum gets stuck in the valve of the pump.

Meaning: Frustrating for mom and nurse since colostrum is “liquid gold” for newborn babies.

***Current containers for hand expression are awkward
And confusing.***

Meaning: current containers are hard to hold, and don't set appropriate quantity expectations for new mothers who feel under pressure to feed their sick baby.

***Transfer of colostrum to a syringe (for feeding) is inefficient
and non-sterile.***

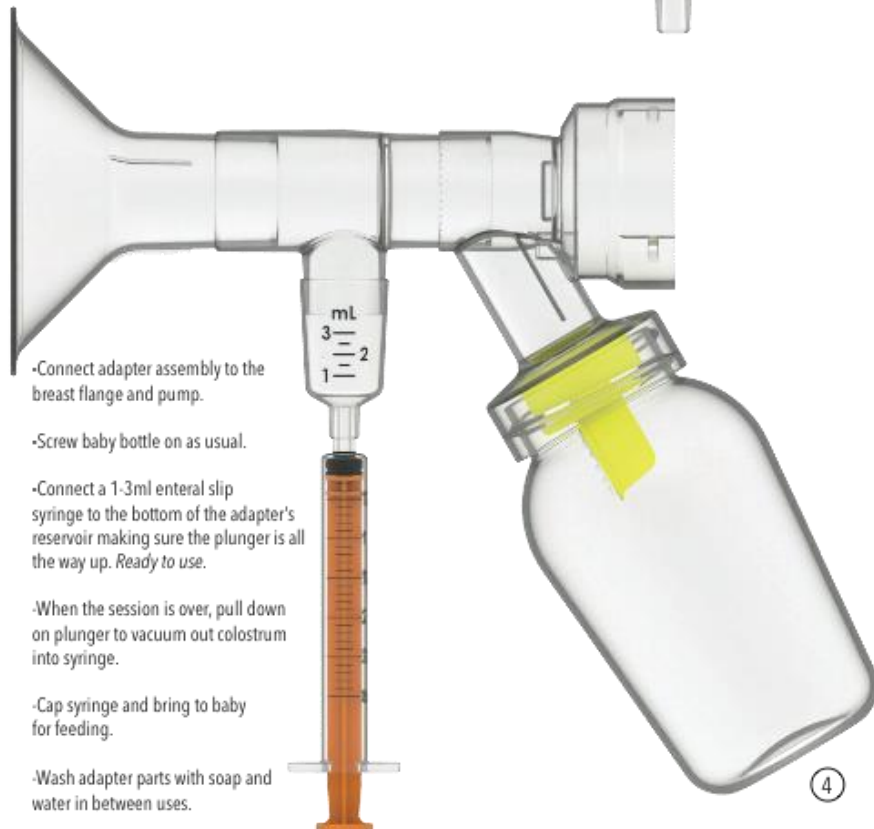
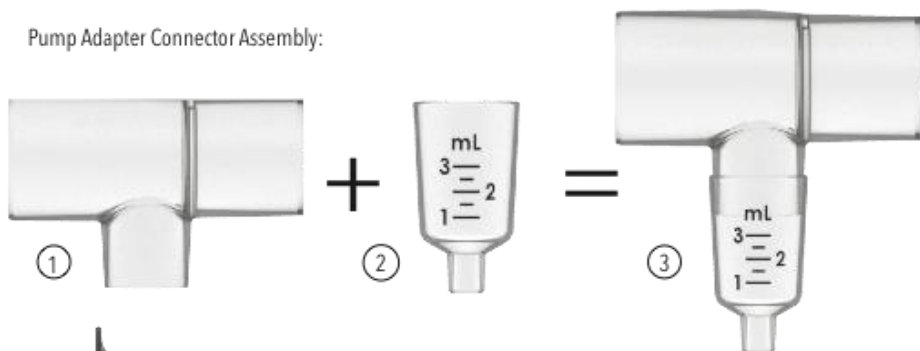
Meaning: scraping colostrum off of valves and sides of containers creates anxiety in moms that there is “not enough” since much of the colostrum is lost during transfer to a syringe. This creates lower milk production due to anxiety. This translates to “I'm not enough.” “I'm not a good mother,” and “I could kill my baby.”

Primo-Lacto®

Making it easier to supply the best nutrition for your baby.

*Primo-Lacto is packed sterile and should be washed with soap and water in between uses during a mother's colostrum phase (1-3 days).

Pump Adapter Connector Assembly:



-Connect adapter assembly to the breast flange and pump.

-Screw baby bottle as usual.

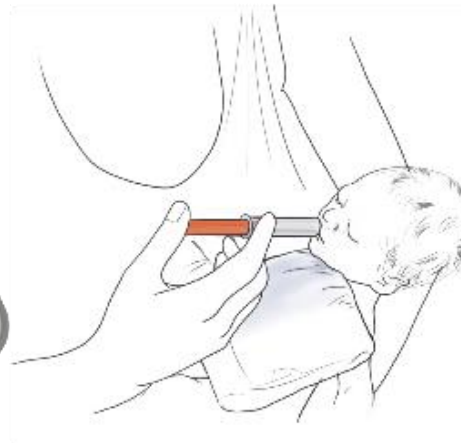
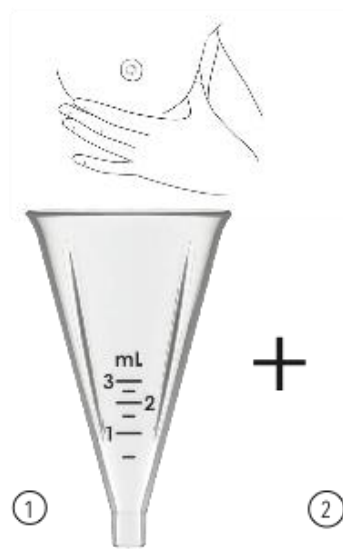
-Connect a 1-3ml enteral slip syringe to the bottom of the adapter's reservoir making sure the plunger is all the way up. Ready to use.

-When the session is over, pull down on plunger to vacuum out colostrum into syringe.

-Cap syringe and bring to baby for feeding.

-Wash adapter parts with soap and water in between uses.

Hand Expression Funnel Assembly:



*Primo-Lacto is packed sterile and should be washed with soap and water in between uses during a mother's colostrum phase (1-3 days).

-Connect a 1-3ml enteral slip syringe to the bottom of the funnel making sure the plunger is all the way up.

-When the session is over, pull down on plunger to vacuum colostrum into the syringe.

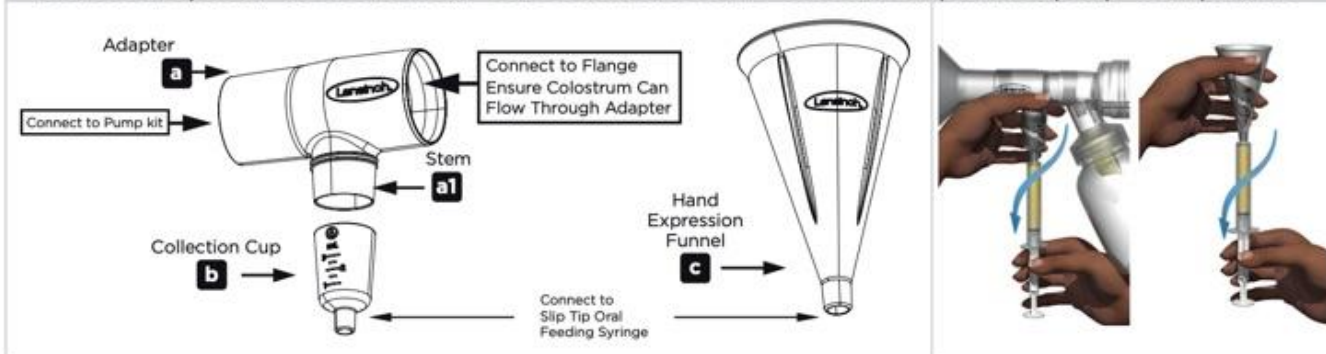
-Cap syringe and bring to baby for feeding.

-Wash funnel with soap and water between uses.



PRIMO-LACTO® ASSEMBLY INSTRUCTIONS

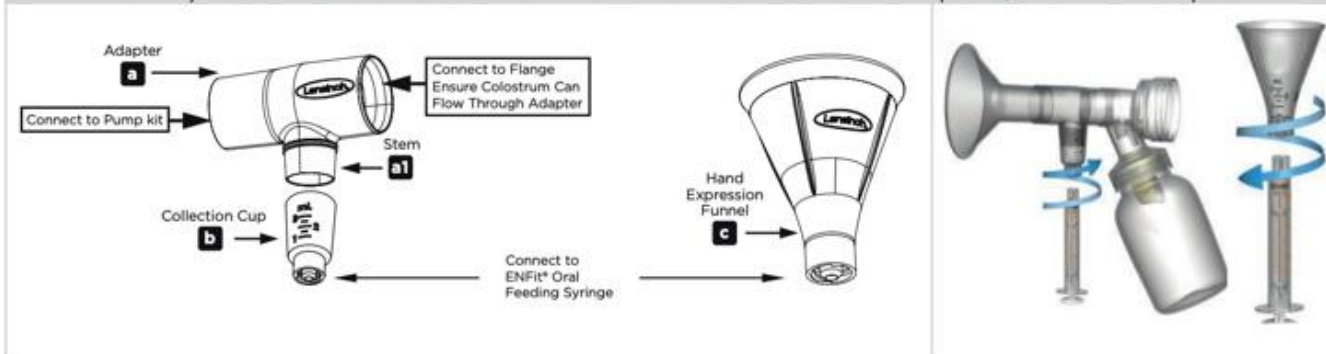
A Closed-System for Colostrum Collection-Medela® Breast Pump Kit, Slip Tip Compatible



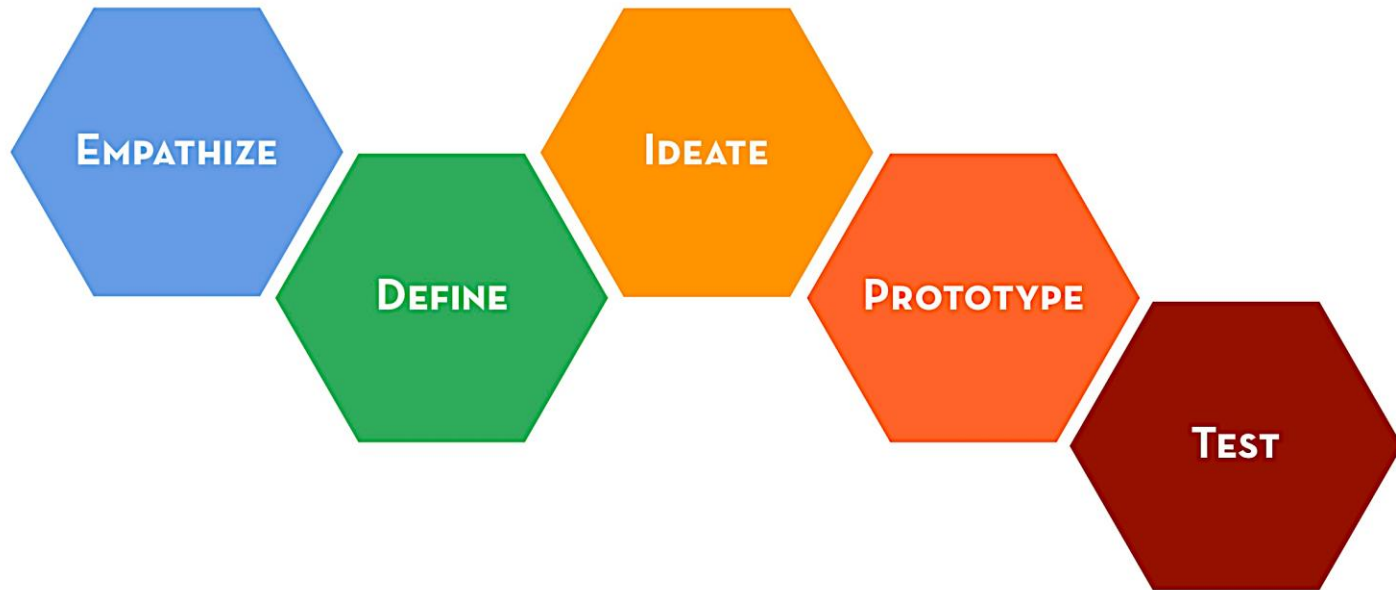
To use while pumping:

1. Wash hands with soap and water before each use.
2. Connect the adapter **(a)** to the breast pump flange. Press together to ensure a secure fit.
3. Connect the adapter **(a)** to the breast pump kit. Press together to ensure a secure fit.
4. Screw a collection cup **(b)** onto the adapter stem **(a1)**.
5. Attach bottle to breast pump kit per manufacturer instructions.
6. Press a slip tip compatible oral feeding syringe into the bottom of the collection cup **(b)**. Ensure a tight fit. Ensure syringe plunger is all the way up.
7. Begin pumping session. The colostrum will flow directly into the collection cup **(b)**.
8. At the end of the pumping session, turn off pump and remove flange from breast. Securely hold collection cup while pulling the syringe plunger down to vacuum the expressed colostrum from collection cup **(b)** into the syringe. **IMPORTANT:** Firmly hold colostrum cup and adapter together while pulling the syringe plunger down to avoid spills. Remove the syringe by carefully rotating it from the collection cup. Cap and label the syringe. Follow your healthcare provider's instructions for feeding or storage.

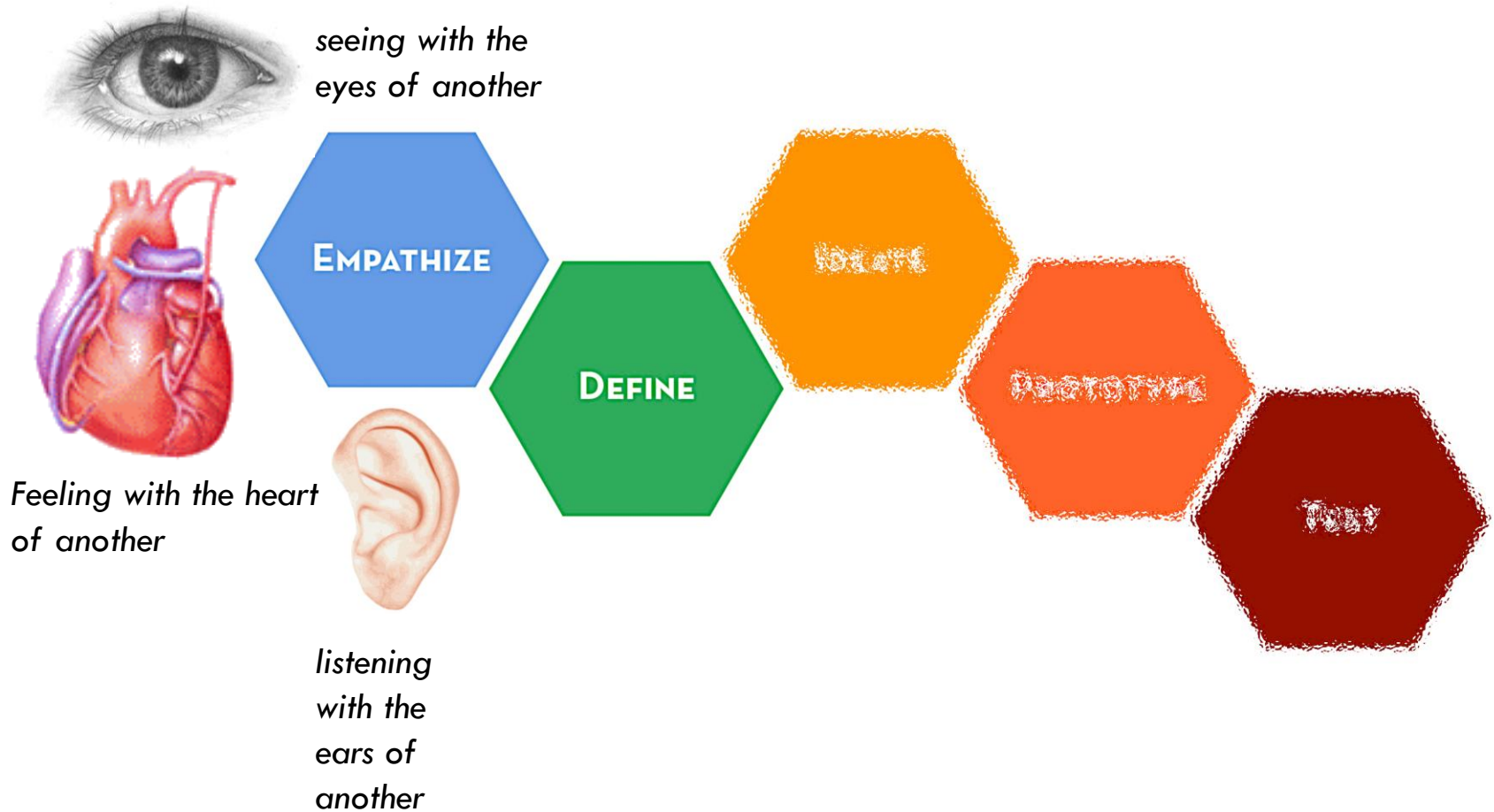
A Closed-System for Colostrum Collection-Medela® Breast Pump Kit, ENFit® Compatible



Human Centered Design Paradigm

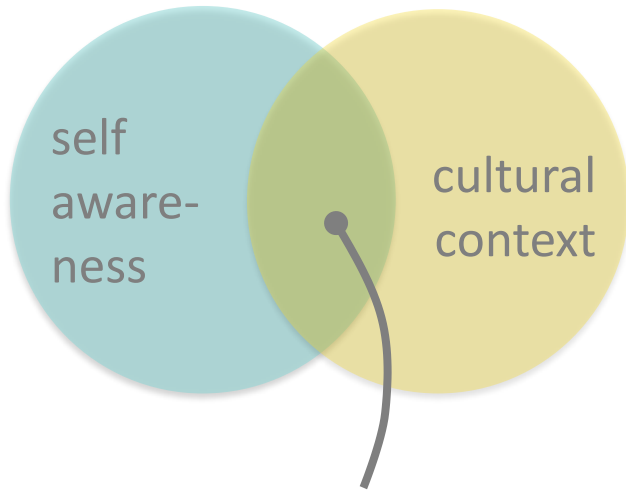


Human Centered Design Paradigm



BEFORE

UNDERSTAND



the impact
of your presence

DURING

BE TRANSPARENT

**Relational, not
extractive, exchange**

**Honest
communication**
about who you are
and possible project
outcomes

**Permission to use
information and
pictures**

AFTER

RECONNECT

Invite participants
to presentations

Communicate
project outcomes to
participants

be humble
put the
participant first

attitudes

BEFORE

WHO ARE YOU?

- How have your culture, life experiences, and demographic shaped the way you see the world?

WHAT ASSUMPTIONS DO YOU HOLD ABOUT YOUR USER GROUP?

UNCONSCIOUS

- Harvard Implicit Association Test
- Facebook Unconscious Bias Training

CONSCIOUS

- Medium: The Cognitively Biased Designer

HAVE YOU CONSIDERED THE CULTURAL CONTEXT?

- Have you met with a cultural informant?
- What is appropriate language, attire, actions?
- How have your participant's culture and life experiences shaped the way *they* see the world?
- How does the participant group view you? What does that mean for your interview?

DURING

OPEN COMMUNICATION

- Clearly represent who you are and possible project outcomes.
- Ask permission to use your participant's information and photos.

ATTITUDE

- Make a friend instead of having an extractive exchange.
- Take on the role of the learner and acknowledge your participant as the expert as you enter their world.
- Make decisions that honor your participant over your output in the class.

CODESIGN

- Look for opportunities to engage your participants in the design process (brainstorming, prototyping). This helps fill in the gaps in your ability to empathize with a user significantly different than yourself.

AFTER

RECONNECT

- Be sure to represent your participants honestly.
- Did you invite your participants to your final presentation?
- Did you contact your participants after the project completion to let them know the outcomes?

the Ethics of Empathy

DASHBOARD



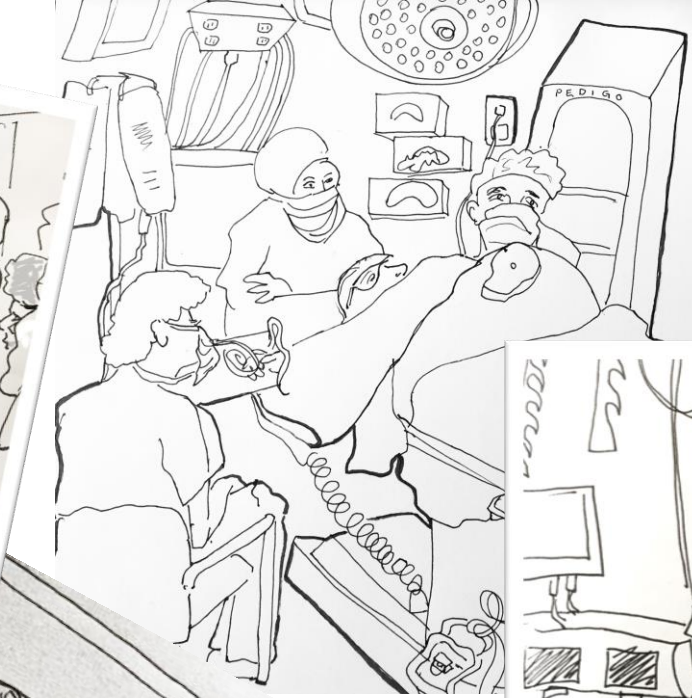
Observation:

The action or process of observing something or someone carefully in order to gain information.









Need statement:

USER needs X because Y ← emotional components

In their own words: New mothers

Words

"I wish I knew that I should have done something before hand to make breast-feeding easier. It really hurt when my nipple tip bled."

Johanna M.

"I almost threw up while in labor because I just ate a hamburger right before - which is probably not recommended. But hey, having a baby is like running a marathon. Gotta treat yourself a bit."

Olivia's mom

Feelings

- Regret at being unprepared
- Frustration when she had trouble feeding her baby. → worried about malnourishment.

• Inconvenience, annoyance of the temporary pain.

• justified for being indulgent, after all, 9 months of abstinence from junk food is a long time.

• Grossed out from the hospital food that she felt compelled to have her husband drive out to buy a burger.

Words

"There's a photo of me in my mother-in-law's foyer of showing casing my huge, braless boobs while I'm hanging onto my newborn for dear life... Yes, I know it's about the baby, but when there is a photo involved, it's about me too."

Mother on the in.
cafemom blog

"If your 'real' doctor doesn't deliver you, you sort of don't care anymore. You just want the baby out & whoever is going to make that happen, your partner, a nurse, or even a f*cking janitor - seems perfectly fine."

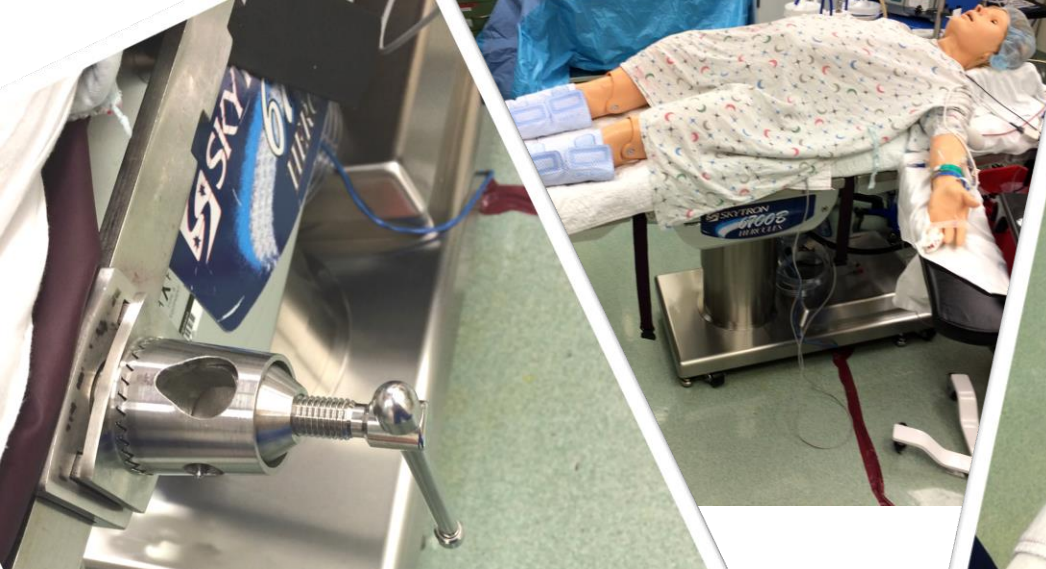
Feelings

- disappointed about her sudden intrusion of privacy.
- Self-conscious about her image on camera & preferred that her family members acted with more sensibility.
- feels grossed out about how she looks right after birth.

• When she is in pain (b/c she's pushing a human being out of her body, she gets urgent and irrational. Anything goes as long as it ends the process.

• indifference toward OB credentials in the critical moment.

• annoyance with anyone/anything that could make her situation more difficult.





FOR
RE

al birth and I really wanted
it felt like they kept pushing
n, obviously, but I was trying
n the hall just shrieking and
ey kept saying, "Hey, the
en you're in that much pain
op, stop it." And then they
so pushed too early and then
o get him out, my older son,
with this big thing on his head
st thought no thank you. I
l to squat. I just had the
on my back, which hurts

Laura Hedli 10/28/16 4:24 PM

Comment: Expectations: desired b
experience; expression of what her vi
for her birth

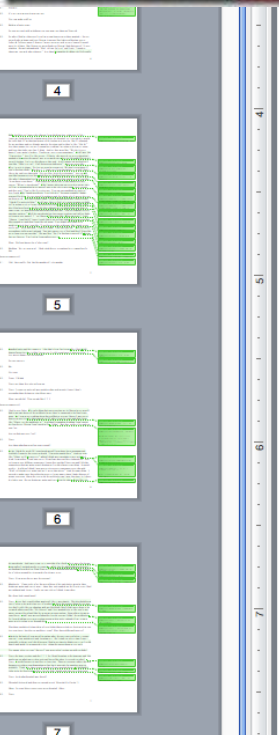
Laura Hedli 10/28/16 5:13 PM

Comment: Physical: Pain – no epic

Laura Hedli 10/28/16 4:27 PM

Comment: Physical: pushing then

Laura Hedli 10/28/16 5:00 PM



14
15
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21
22
23
24
25
26
27
28 FSPKR3: The opposite?
29
30 FSPKR1: I was surrounded by a lot of p
31 pretty harrowing home birth s
32 So I feel like if you can be in
33 best of all worlds. So that's v
34
35 INT: So you mentioned on your fir
36 happening there. Did they giv

sense that that was going to be better. So they had me on my back, which hurts

more, and then I discovered later that the midwife had never had children before
(And so she kept looking at the
don't feel like pushing. And
like you can't find something
and they'd say, "No, no, no, d
know.) And so when I talked
your body knows." And so I
also think is wrong thinking.
just me than all the people I h
child again, I had pneumonia,
and so that just sort of blew th
my birth experience, which w
birth.)

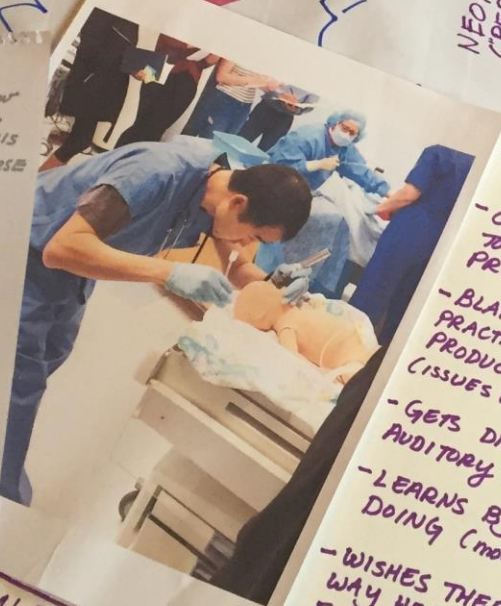


4 LITHEIS (PAPERIS) OUTLINES
 - First treatment with not knowing enough
 - About the baby "not a genius"
 - Frustrations about lack of space, +
 - Frustrations about lack of information in the OR.
 - Frustrations with central monitors are in
 - Advice with the certain devices are used but
 - "Goes with it" - because there is no
 - Accepted Alternative
 - OUTLINES:
 - What's the cord blood to drain (1 min)
 - What is team doing during this time?

"WHAT'S THE GESTATIONAL AGE OF THE BABY?"
 "APGAR SCORE:"
 "GET ME A BLANKET"
 "WE WILL HAVE TO DO INTUBATE"
 "WHERE IS THE EPI? (EPINEPHRINE)"
 "1, 2, 3, 1, 2, 3, 1, 2, 3" (counting)
 "NEEDING TO LOOK UP AT SCREEN"
 "DO?"
 "SAY"

THINK
 "THIS IS AWKWARD!"
 "GET OUT OF MY WAY!"
 "THESE GOWNS MAKE IT HARD TO SEE MY TEAMMATES... I WONDER WHAT THEY'RE THINKING"
 "I WISH SOMEONE WOULD TELL ME THE GESTATIONAL AGE AGAIN"
 "WHY DOES THIS TUBE KEEP SLIPPING OUT?"
 "I SHOULD PRACTICE INTUBATION MORE..."
 "WHY CAN'T MY BACK BE STEERED? SEALING... WELL..."
 "THIS C-PAP MASK IS NOT WELL..."
 "WHY IS THERE NO DIGITAL CLOCK IN THE ROOM SO I CAN TRACK DELAYED CORD CLAMPING TIME?"
 "FEEL"
 "I HATE THIS REPEATING"
 "THE LIGHTS ABOVE ARE MAKING ME FEEL SO HOT. I'M SWEATING!"
 "THIS PROCEDURE MAKES ME FEEL INCOMPETENT BECAUSE OF THIS CRAPPY TOOL"
 "FEELS"
 "FEELING LIKE THIS TEAM IS VERY COMPETANT"

NEONATOLOGIST
 ("PED.")



- WORKS IN A TEACHING HOSPITAL
 - OFTEN UNDER PRESSURE TO PERFORM LIFE-SAVING PROCEDURES
 - BLAMES "LACK OF PRACTICE" FOR PRODUCT SHORT-COMINGS (ISSUES WITH TOOLS/DEVICES)
 - GETS DISTRACTED BY AUDITORY ALERT OVERLOAD
 - LEARNS BY SEEING + DOING (more than hearing)
 - WISHES THERE WAS A WAY HE COULD REMEMBER EVERYONE'S NAME IN THE O.R.
 - WISHES THERE COULD BE A BETTER CORD MANA

NEONATOLOGIST
 "DR. LEE"

DR. LEE NEEDS A BETTER WAY TO KNOW THE C-PAP MASK HAS AN OPTIMAL SEAL BECAUSE NOT KNOWING CONTRIBUTES TO HIS STRESS, AND THE POTENTIAL FOR AN ADVERSE OUTCOME

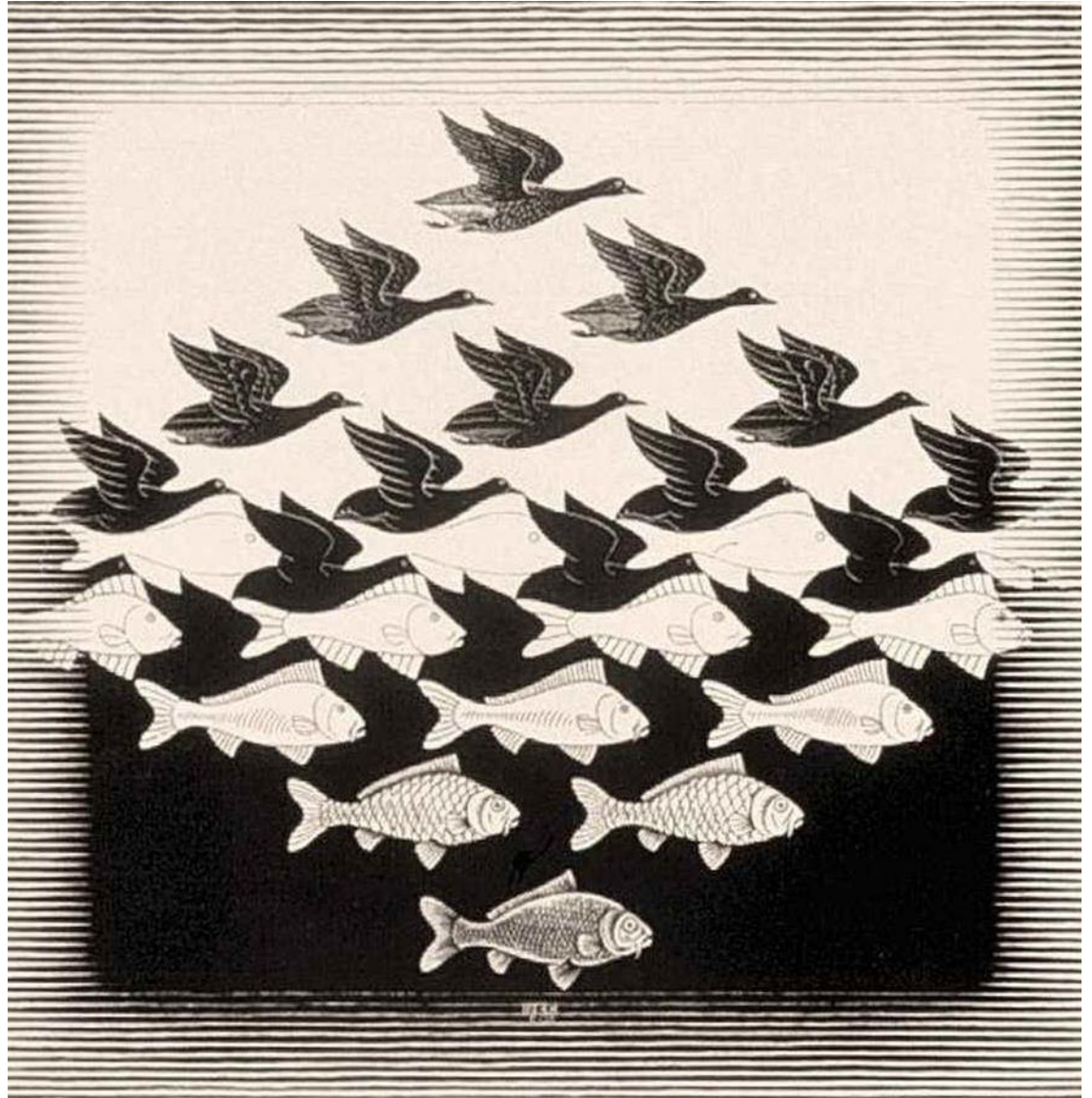
DR. LEE NEEDS A BETTER WAY TO SEE VITAL INFORMATION AT A GLANCE IN THE OR. BY ASKING OUT LOUD FOR BASIC INFORMATION ABOUT THE BABY CONTRIBUTES TO MORE NOISE IN THE ROOM AND INHIBITS WORK FLOW.

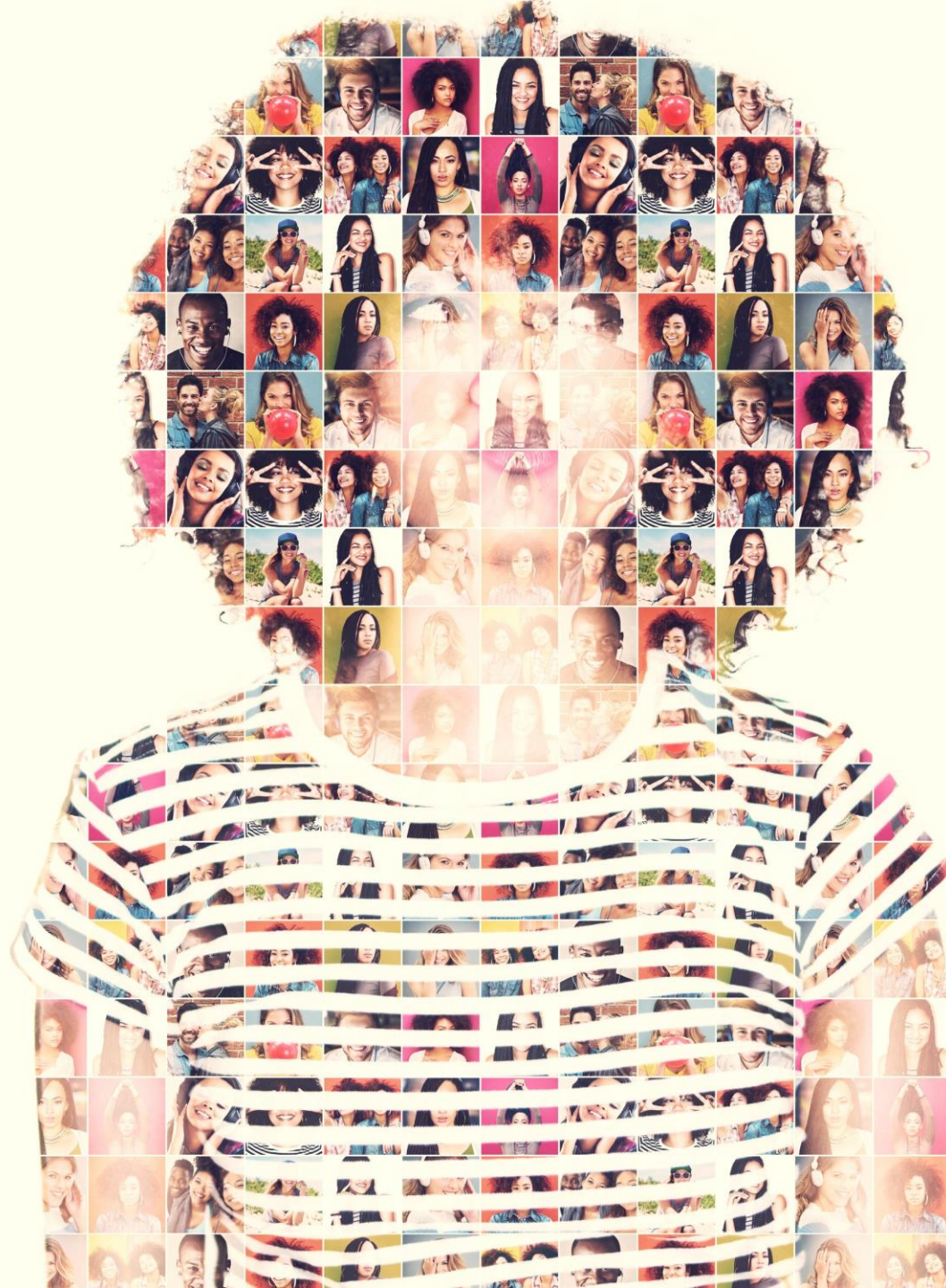
DR. LEE NEEDS A NEW PANDA WARMER BECAUSE THE CURRENT DESIGN DOES NOT EASILY ALLOW FOR OPTIMAL COLLABORATION DURING EMERGENCY RESUSCITATIONS, AND THIS INCREASES HIS STRESS AND NEGATIVELY AFFECTS THE TEAM DYNAMIC.

"I WISH THE PANDA WARMER WAS MORE ACCESSIBLE, AT-A-GLANCE INFORMATION ABOUT NIBP FOR 6 CHILDREN"

Insight:

The capacity to gain an accurate and deep understanding of a person or thing.

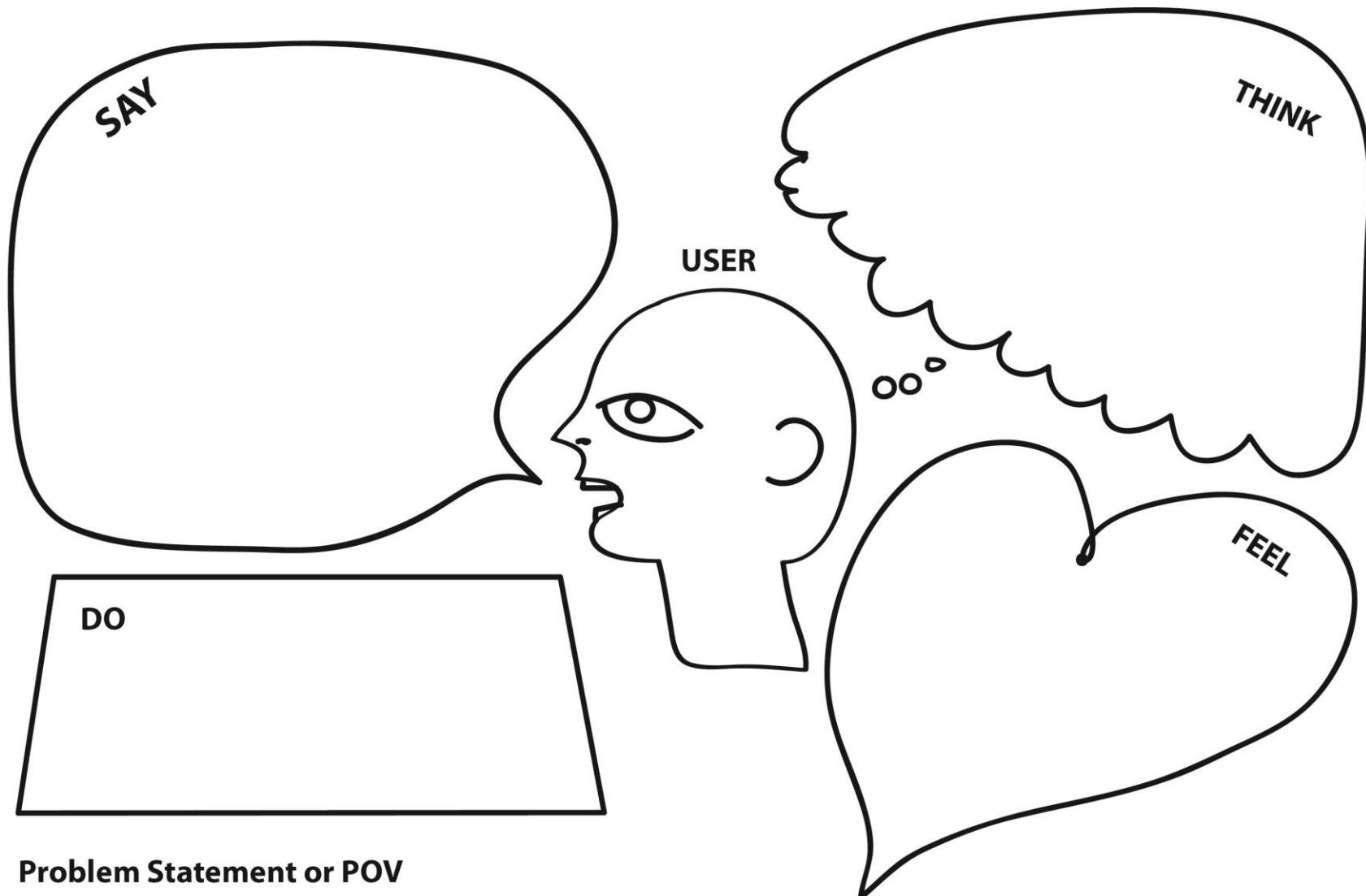




A persona is a user archetype that helps guide decisions about product features, interaction, and visual design.

Personas are beneficial for...

- Defining a specific user's goals and needs
- Giving design teams a focus with a common understanding
- Identifying opportunities and product gaps to drive strategy
- Concentrating on designing for a manageable target who represents a larger group
- Helping designers empathize with users to understand behaviors, motivations and expectations



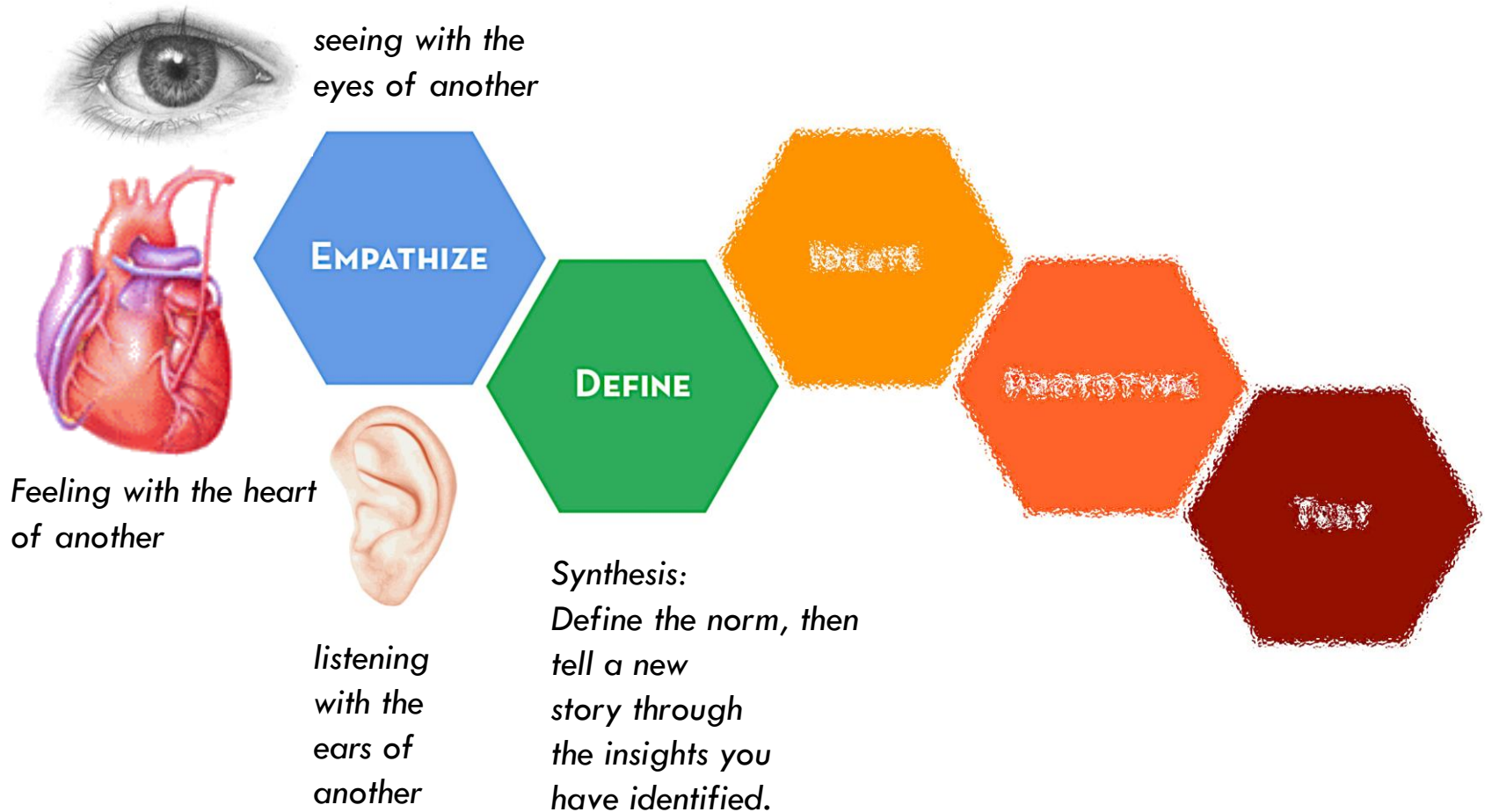
Problem Statement or POV

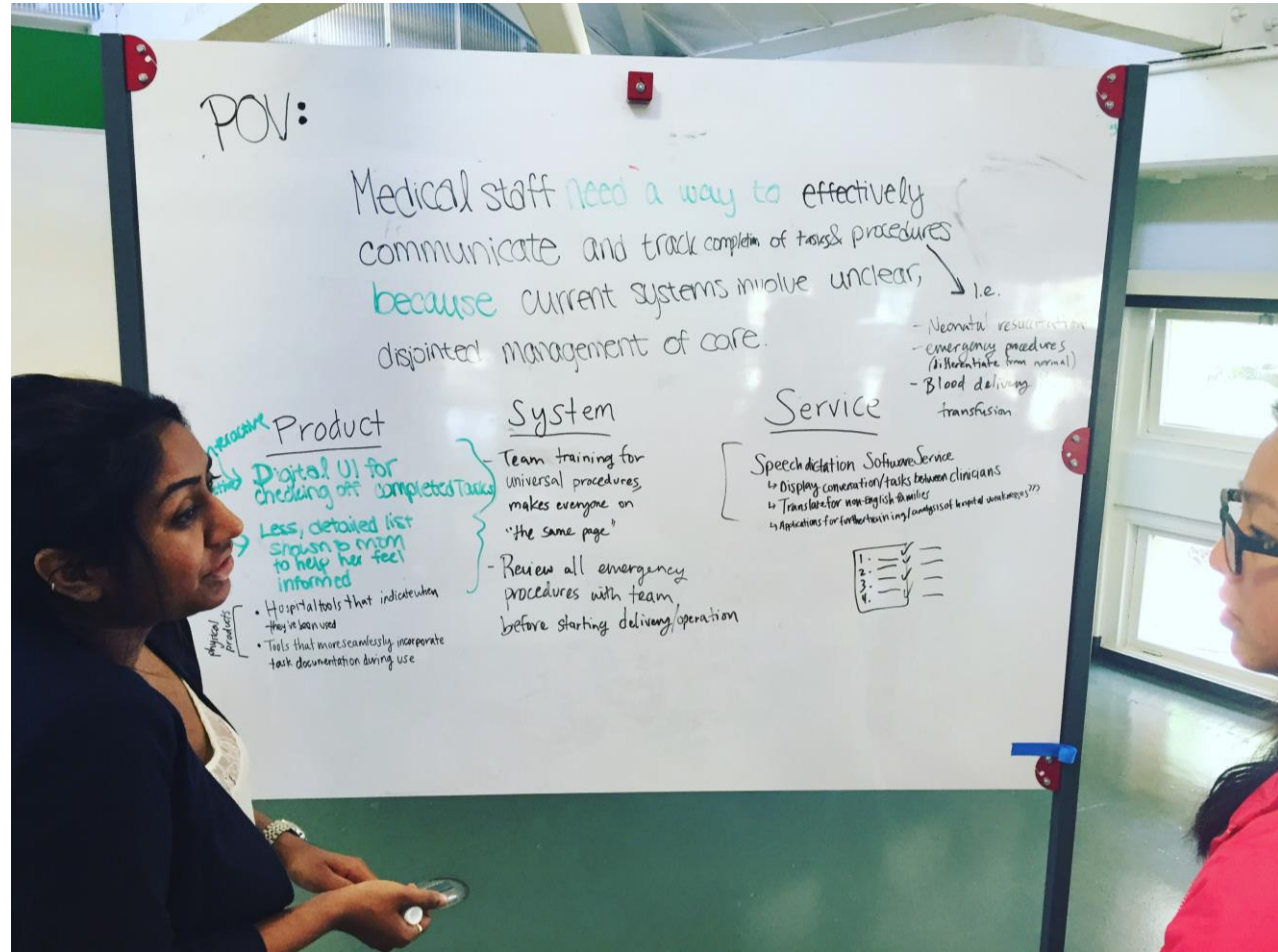
USER NEEDS A WAY TO NEED BECAUSE INSIGHT

DESCRIBE A PERSON USING EMPATHETIC LANGUAGE

NEEDS ARE VERBS

Human Centered Design Paradigm







DEFINE

1) Bring a person/group to life and
their healthcare situation to life.
(Define the norm.)

2) Offer an insight
“We were amazed to discover...”

3) An innovation is suggested
“It would be game changing if...”

