

mental practice for high- acuity, low-opportunity procedures

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no conflicts to declare







ATOMIC

USA

LAND-ROVER
USA

PYDER

CARBON

deliberate practice
mental

mental practice:
the cognitive rehearsal of a
physical skill without movement

learn a new skill →



improve team performance →



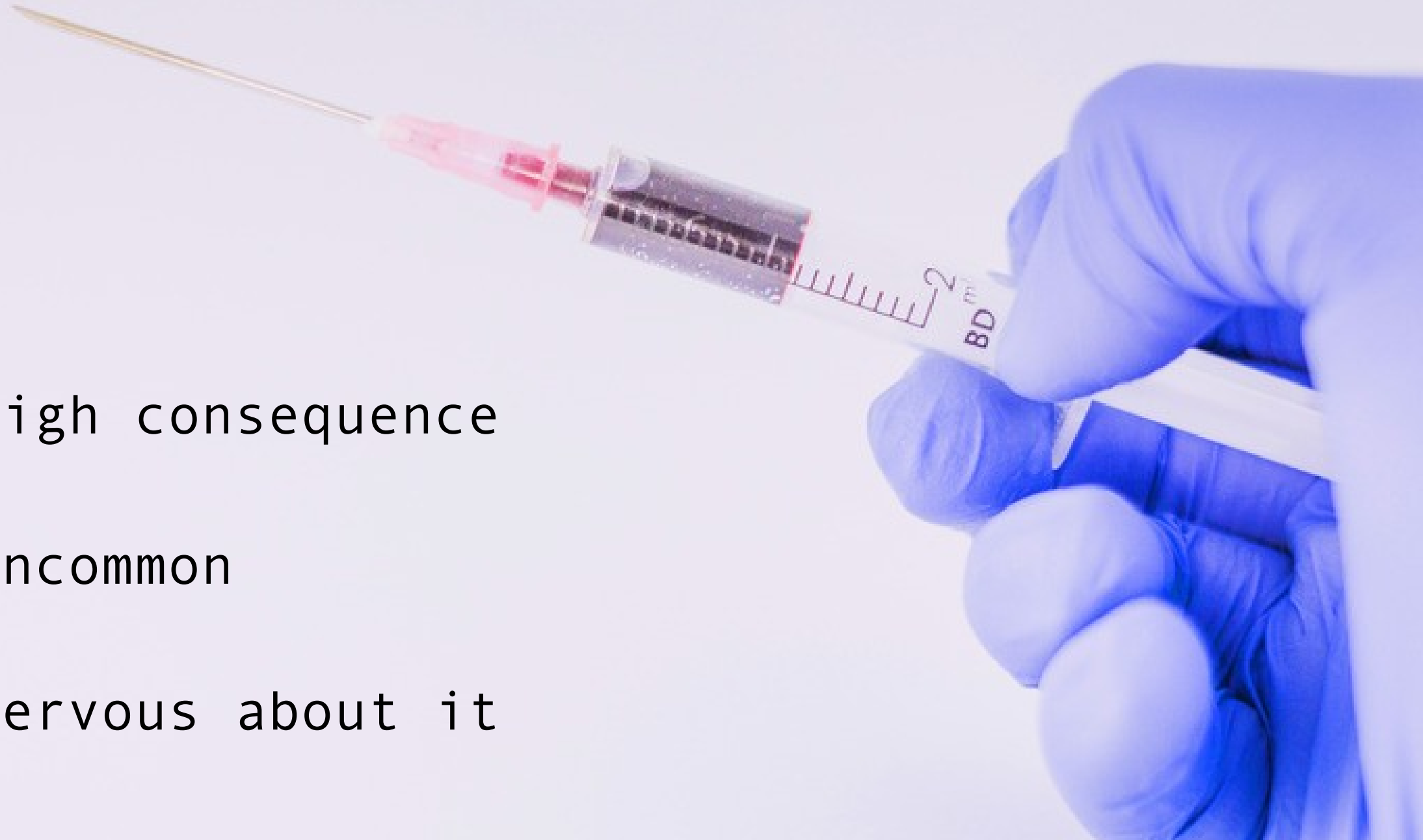
reduce procedural stress →



high consequence

uncommon

nervous about it







IT'S FINE





We zip through a rush of people and land on LORELAI GILMORE sitting on the steps of the gazebo, two giant cups of take-out coffee in her hands and a paper bag on her lap. She hears a familiar voice:

Ok sure, but why
Lorelai bother with a script? standing
there, &-----

LORELAI
(annoyed)
That's how you look when you get
off a plane?

RORY
That's how you say hello?

LORELAI
(getting up)
You've been stuffed in a glorified



example: bougie cricothyrotomy

1. Identify necessary materials for BAC: bougie, scalpel, size 6 ETT, larger ETT options, 10cc syringe
2. Provide supraglottic oxygenation, if time permits
3. If space allows, position yourself on the same side of the patient as your dominant hand (R hand dominant, stand on R side patient)
4. Palpate up from sternal notch to find cricoid cartilage, and palpate down from mandible to identify the superior margin of thyroid cartilage. Palpate for the cricothyroid membrane (CTM)
5. If time allows, clean neck with sterilizing solution or swabs
6. With your non-dominant hand, stabilize the larynx using thumb and middle finger and palpate CTM with index finger.
7. With scalpel in dominant hand, make a vertical incision from thyroid cartilage to bottom of cricoid cartilage. If no palpable anatomy, extend incision toward sternal notch
8. Palpate through incision to confirm CTM
9. Extend CTM incision laterally in both directions without removing blade
10. Remove blade & insert non dominant index finger into transverse incision confirming with palpation of tracheal rings
11. With dominant hand, slide bougie into incision space
12. Railroad ETT over bougie until cuff is no longer visible above cricothyroid membrane
13. Remove bougie
14. Inflate Cuff
15. Attach ETT to ET CO2 and then BVM to confirm tube placement
16. Assess for appropriate tube placement: auscultate both lungs, X ray if time allows
17. Secure the tube

“The blood
sprayed a little
bit with each
breathe. It kind
of surprised me,
but I guess
thinking about
it now it makes
sense.”



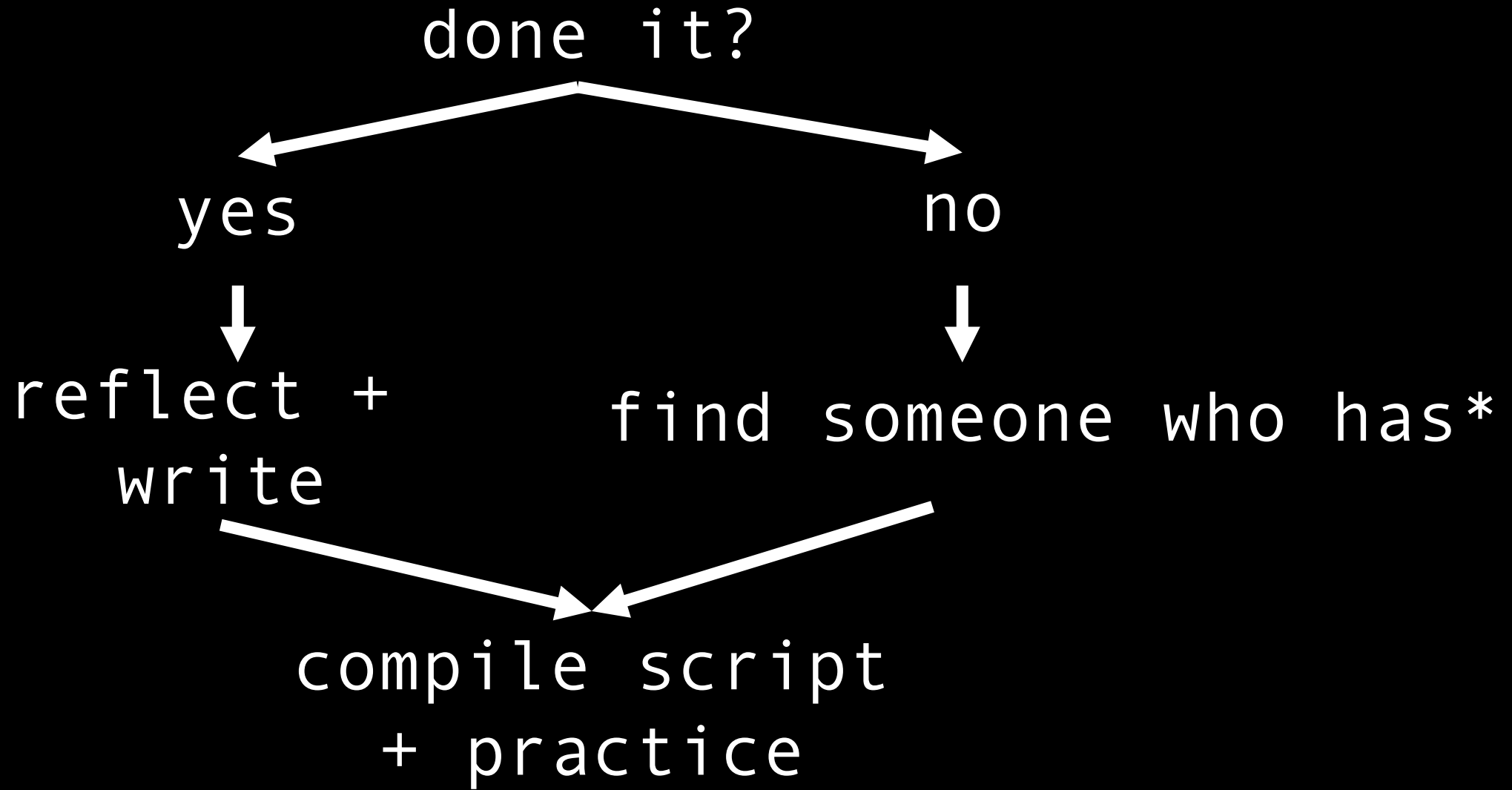
“With my finger
in the incision,
I could feel
each tracheal
ring very
distinctly.”





“I knew for sure
I was in the
airway – the
bougie slid in
right beside my
finger and I
could feel it
catching a
little bit on
the rings as I
pushed it down.”

“Using the scalpel in your dominant hand you make a horizontal incision through the cricothyroid membrane. There is a distinct pop, and you see blood spray with expiration. You put your non-dominant index finger into the incision, and feel the tracheal rings. You are confident you are in the airway.”





close to performance

pre-shift

pre-arrival

real-time

pre/post-practice



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EDUCATIONAL INNOVATION



Dream one, do one, teach one: a mental practice script for bougie assisted cricothyrotomy

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visually-enhanced
mental simulation



Credit: Dr. Victoria Brazil



dial in your scenario
with a script

add fidelity

repeat for other skills

thank you

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@riggsy





physical

environment

task

timing

learning

emotion

perspective



physical

environment

task

timing

learning

emotion

perspective

stance
+
stuff

A close-up photograph of a white dog's face, showing its eye and nose, positioned on the right side of the frame. Below the dog's face, a colorful rope toy with blue, yellow, and orange sections is visible. The background is a light-colored, textured surface, likely concrete. On the left side, there is a vertical list of seven terms, each with a red square highlighting the first letter.

physical

environment

task

timing

learning

emotion

perspective

practice where
you perform

A close-up photograph of a white dog's face, showing its eye and nose, positioned on the right side of the frame. Below the dog's head, a colorful rope toy with blue, yellow, and orange sections is visible. The background is a light-colored, textured concrete floor. On the left side, a vertical list of seven terms is displayed, each with a red square highlighting the first letter.

physical

environment

task

timing

learning

emotion

perspective

use a script

A close-up photograph of a white dog's face, showing its eye and nose, and a colorful rope toy with blue, yellow, and orange sections. The background is a wooden floor.

physical

environment

task

timing

learning

emotion

perspective

real time



physical

environment

task

timing

learning

emotion

perspective

review + update

A close-up photograph of a white dog's face, showing its eye and nose, positioned on the right side of the frame. Below the dog's face, a colorful rope toy with blue, yellow, and orange sections is visible. The background is a light-colored wooden floor. On the left side, there is a vertical list of seven terms, each with a red square highlighting the first letter.

physical

environment

task

timing

learning

emotion

perspective

acknowledge negative +
include positive

A close-up photograph of a white dog's face, showing its eye and nose, positioned on the right side of the frame. In the foreground, a colorful rope toy with blue, yellow, and orange sections is visible. The background is a light-colored, textured surface, likely concrete. The overall scene is brightly lit.

physical

environment

task

timing

learning


emotion

perspective

through your own eyes



1. TURN POWER ON. PRESS PWR. THE SYSTEM WILL INITIALIZE BY FLASHING. PLEASE WAIT WHILE LOADING SOLOANS' DISEASE CODE AS (NORMAL) WILL APPEAR WITH INSTRUCTIONS TO EXAMINE PATIENT NOW.
 2. CHANGE DISEASE: ENTER CODE NUMBER AND PRESS OK.
 3. CANCEL ENTRY: PRESS 'C'.
 4. CHANGE VOLUME OR IMPULSE AMPLITUDE: PRESS VOL or AMP - or * AS OFTEN AS REQUIRED (WHEN CHANGING TO A NEW DISEASE, THEY WILL AUTOMATICALLY RETURN TO A PRESET LEVEL).
 5. POWER OFF: PRESS PWR.
- BOTH DISEASE VOL, VOL or * AND IMPULSE AFTER THE LAST DISEASE ENTRY TO TURN ON AGAIN. PRESS PWR.

 Duke Medicine

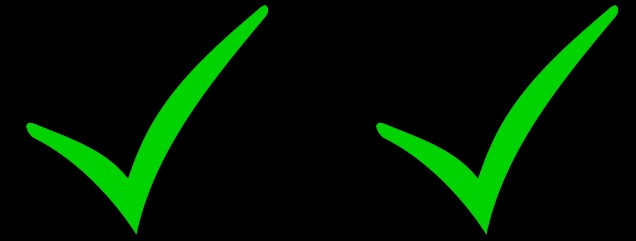
Control panel with a numeric keypad and function buttons:

- HEART VOL. *
- BREATH VOL. *
- IMPULSE AMP *
- 1-9, 0
- OK
- C
- PWR

Mental Practice:
the cognitive rehearsal of a
physical skill ~~without~~ movement

Someone who wants to...

Learn a new skill



Maintain competence

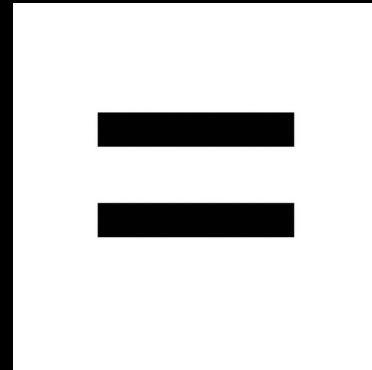
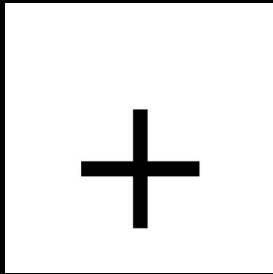


Reduce procedural stress





steps



script

what is seen
what is felt
what is thought

*

staff + senior residents

online

get our script --> soon

Example: intubation



What are you looking at?

What are you feeling?

What are you thinking about?



Mental Practice Scripts in Emergency Medicine

Jamie Riggs