



A Psychologist's Perspective on Pain

Dr. Jeremy Anderson

What *is* pain?



Common-sense view:

1. Physical tissue damage = Pain
2. One-to-one relationship, i.e., big damage = big pain, small damage = small pain

Problems with the common-sense view







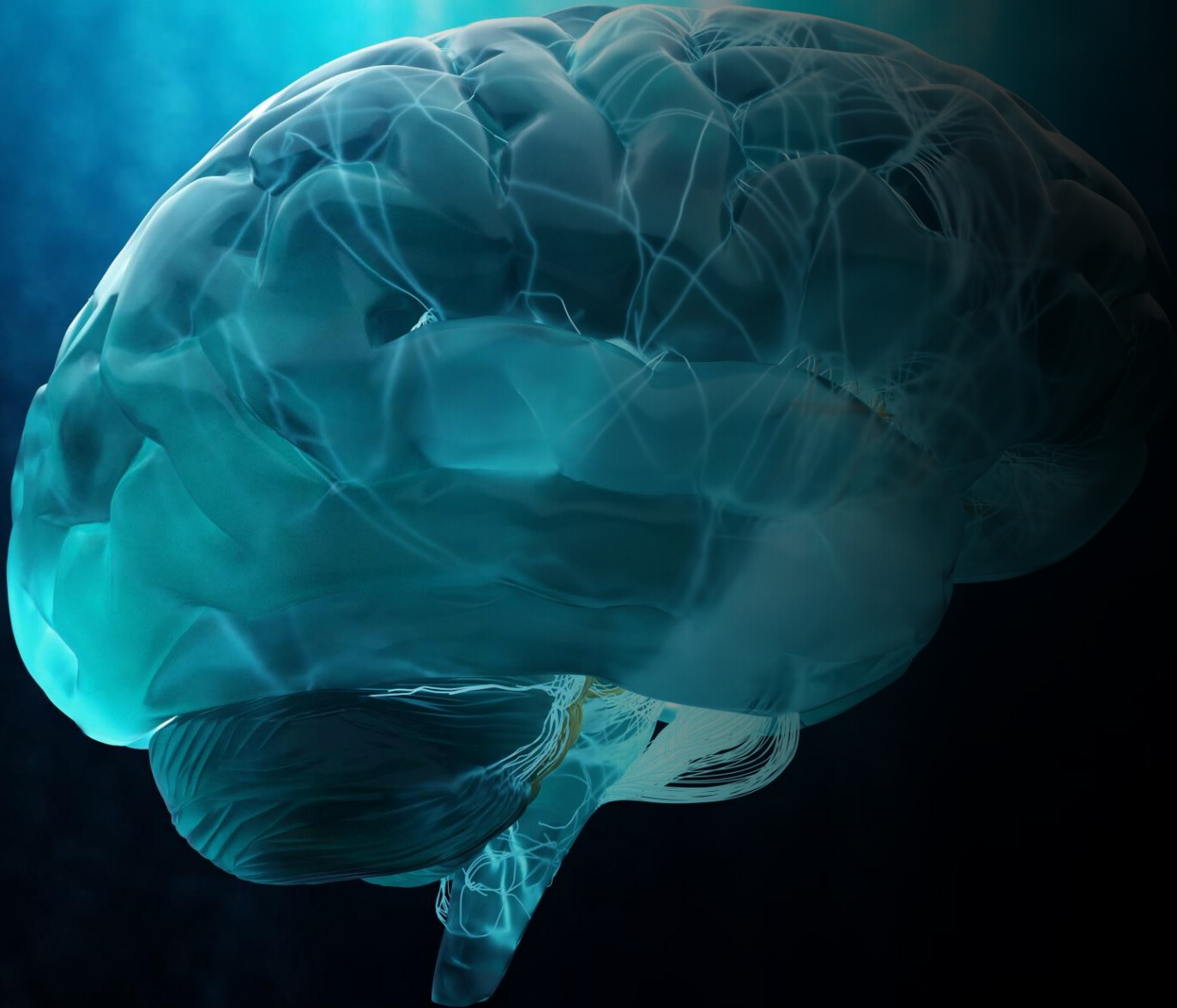


Common sense model is too simple:

1. Can have injury without apparent pain
2. Can have pain without apparent injury (or associated body part!)

IASP Definition of Pain

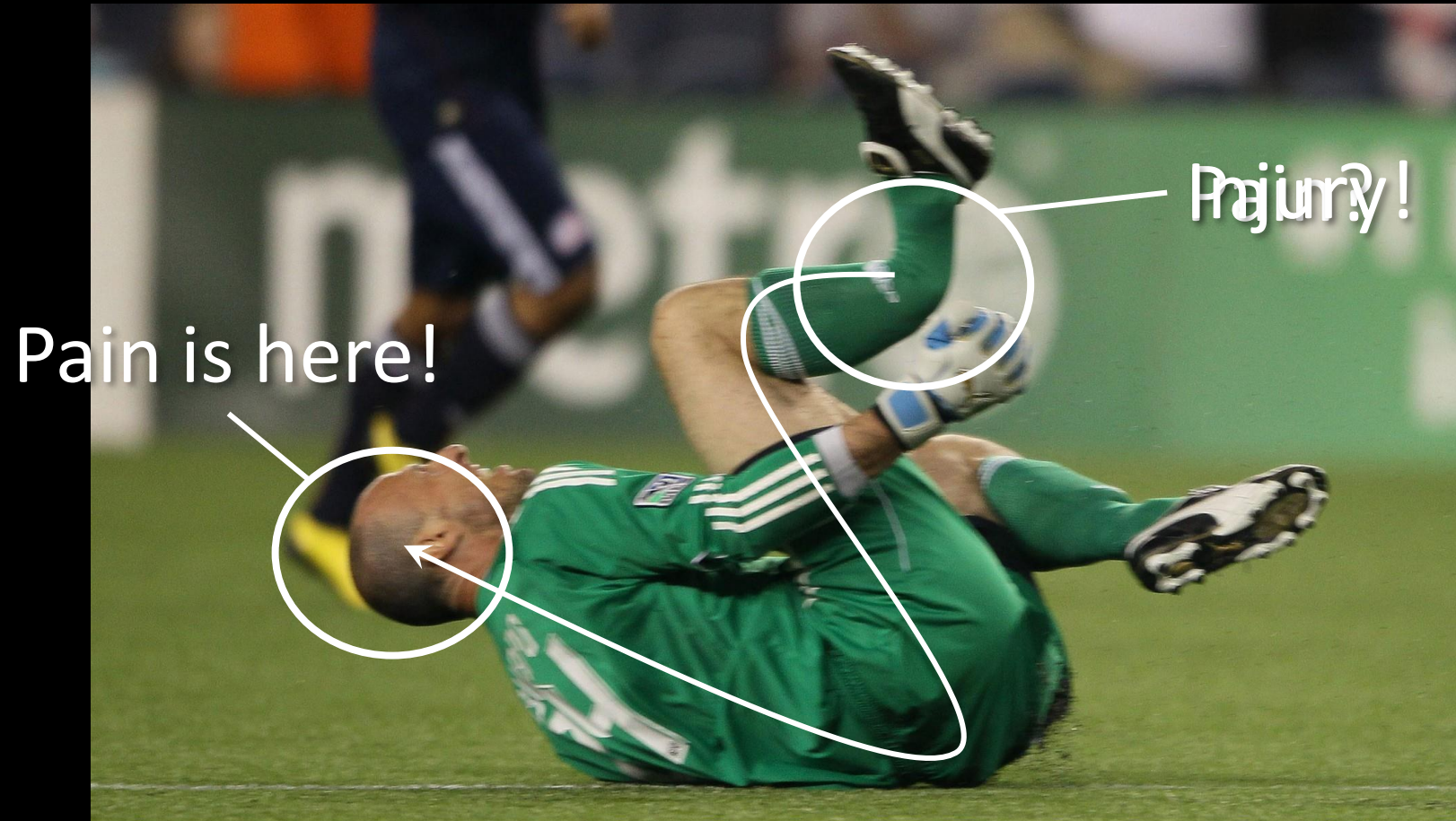
“An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.”

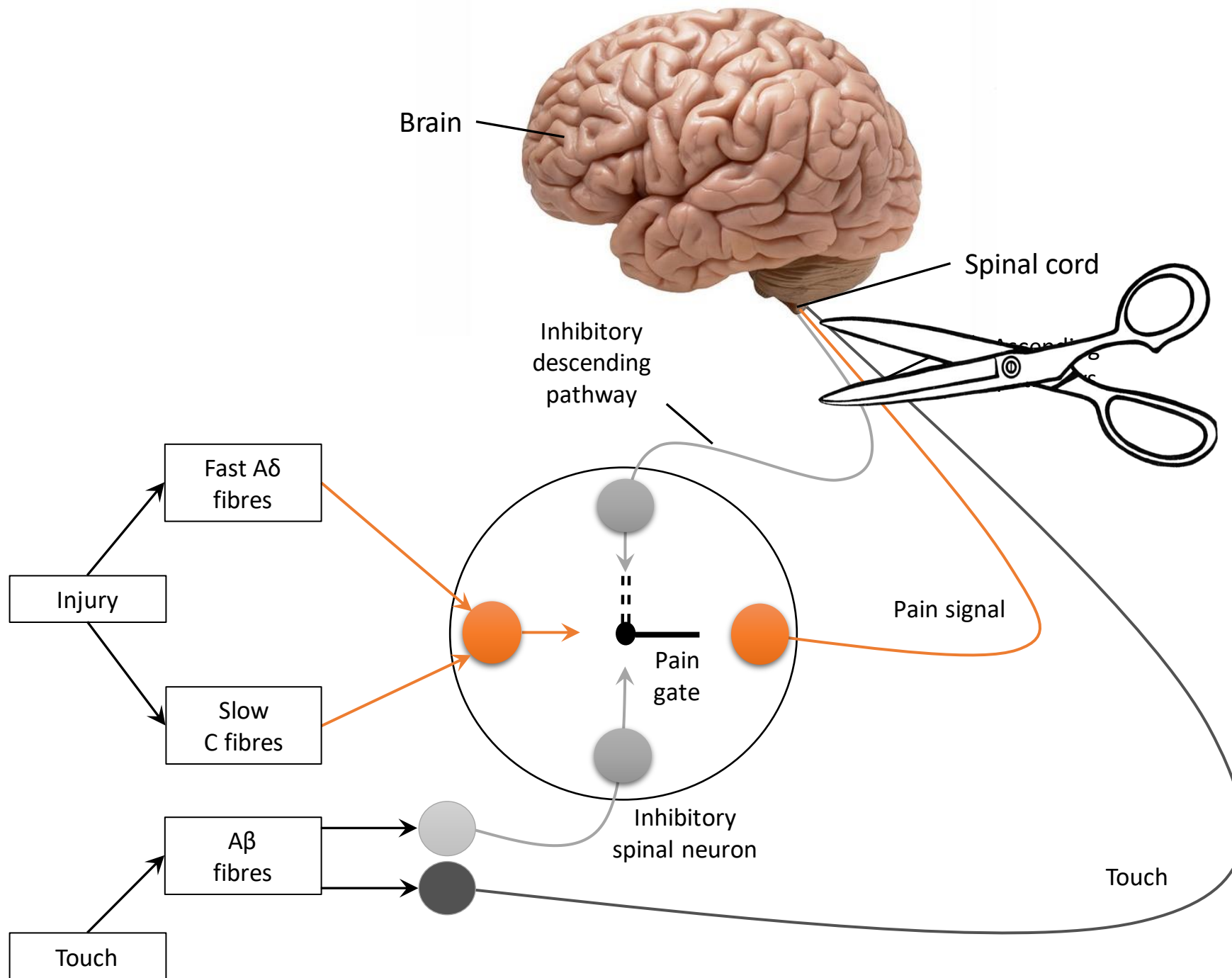


Key Points:

1. If it feels like pain, you've got it
2. Both sensation and emotion
3. Subjective experience (have to be conscious)
4. Consciousness is what the brain does

Where *is* pain?



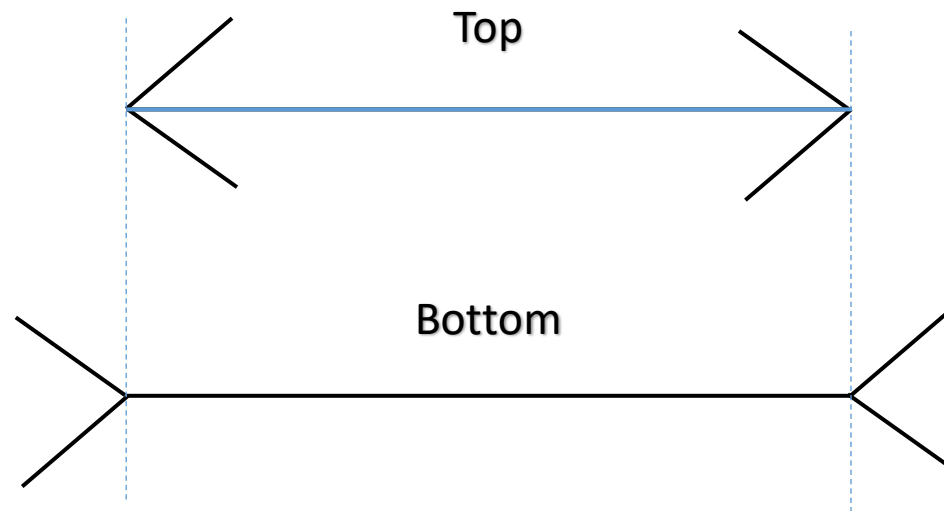


ALL PAIN is Brain

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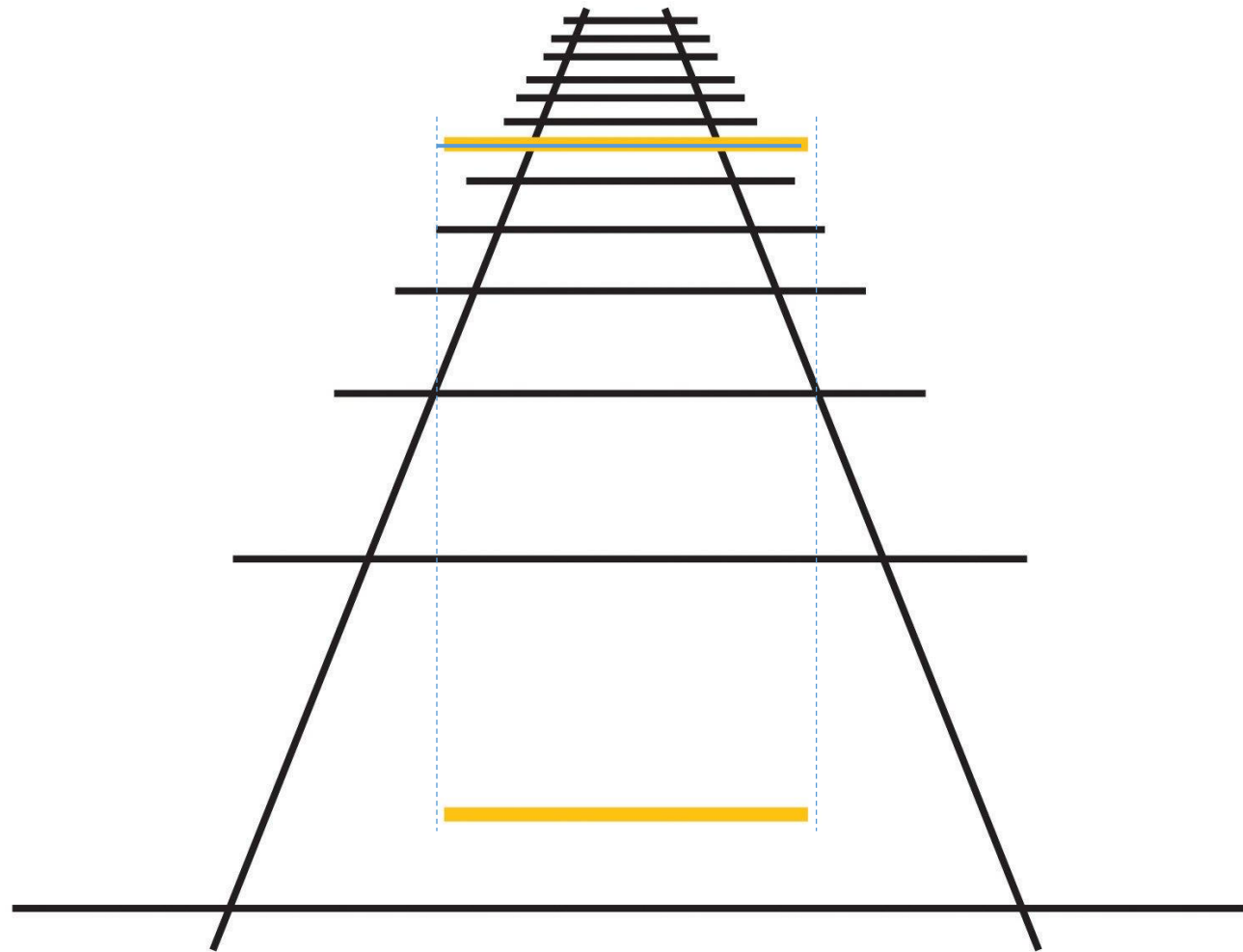
1. Can have injury without apparent pain
2. Can have pain without apparent injury (or associated body part!)
3. Attention seems to matter
4. Can be tricked

Müller-Lyer illusion

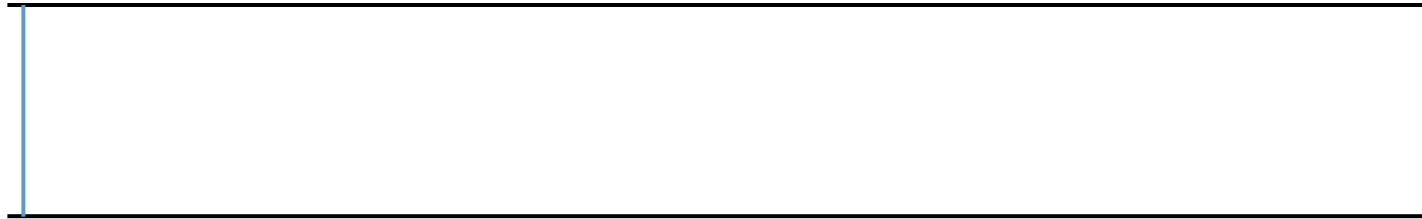


Which horizontal line appears longer?

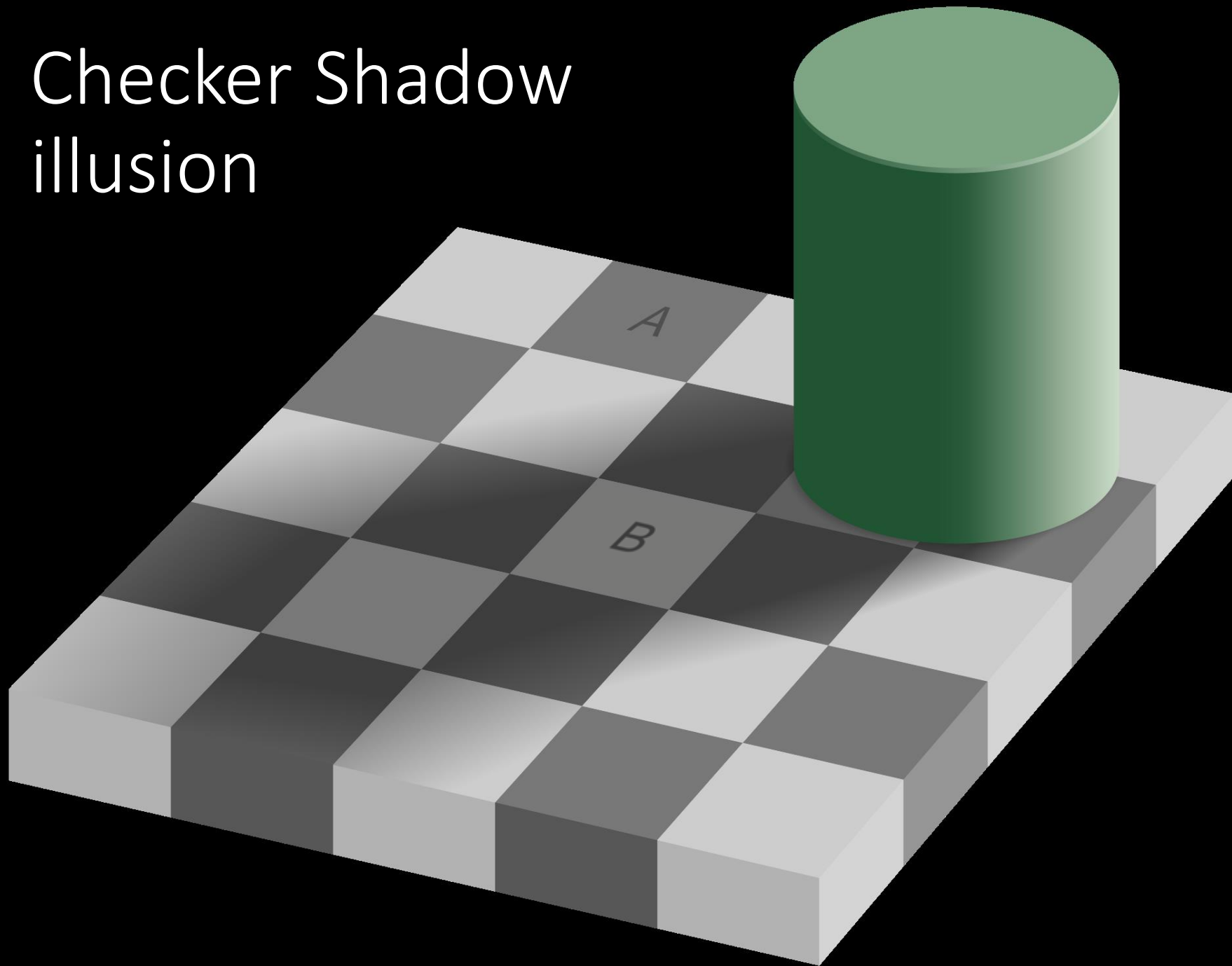
Ponzo illusion



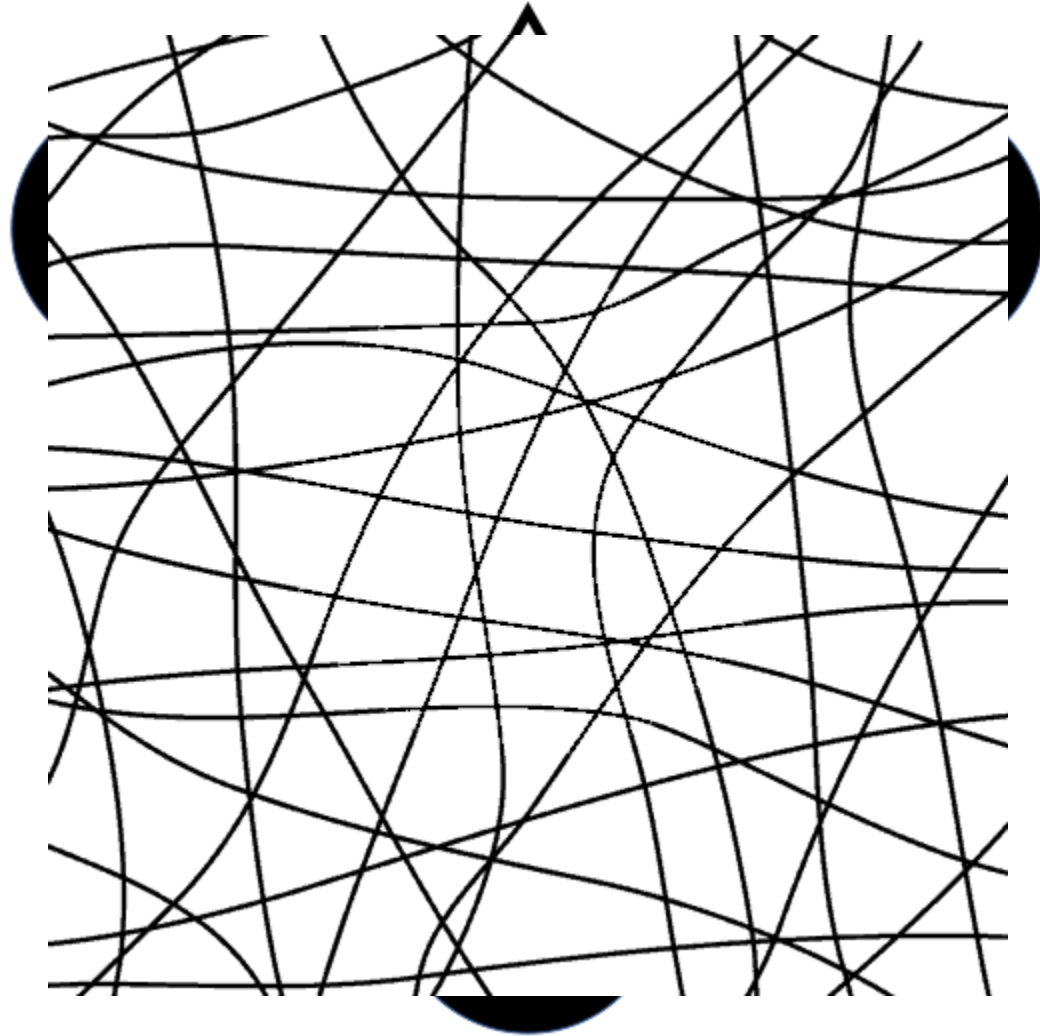
Zöllner Illusion



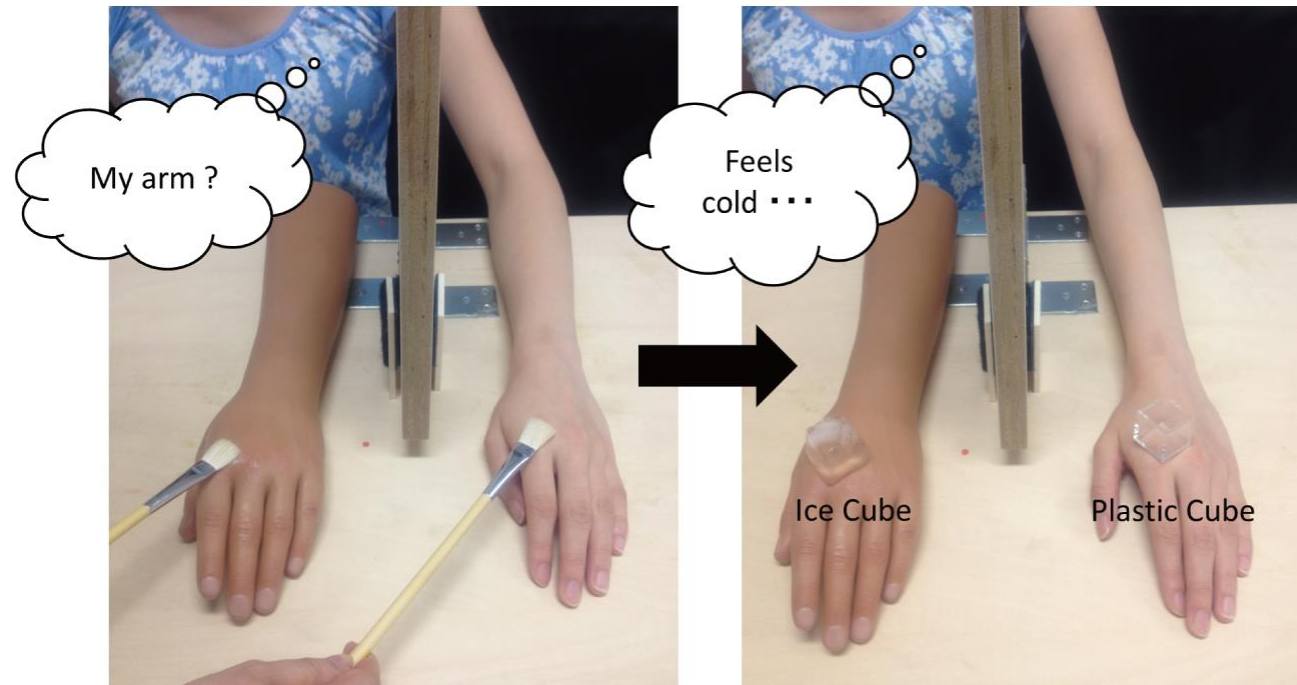
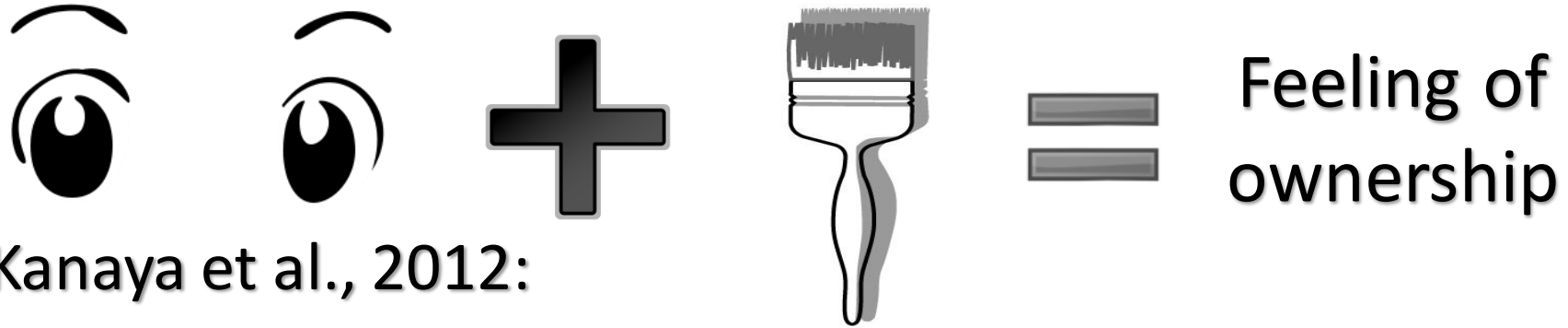
Checker Shadow illusion



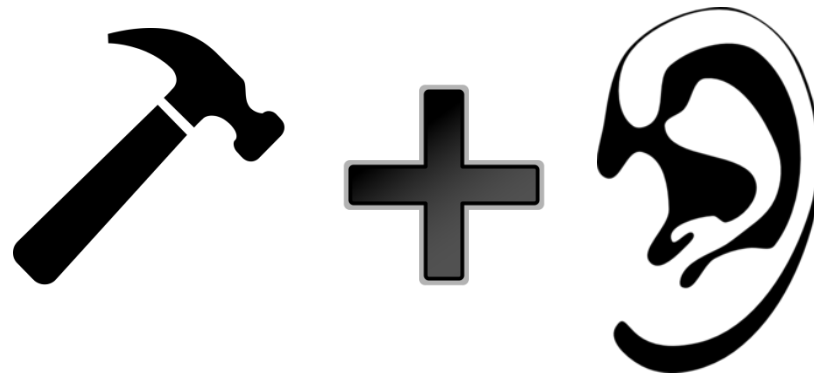
Illusory Contours



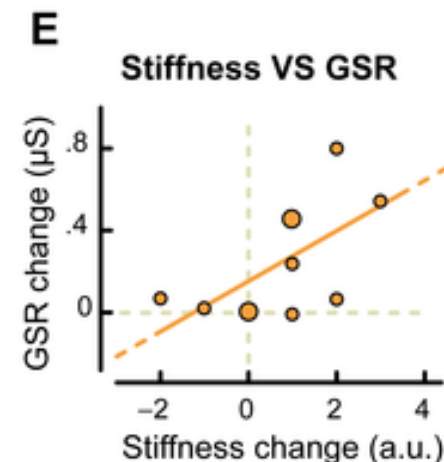
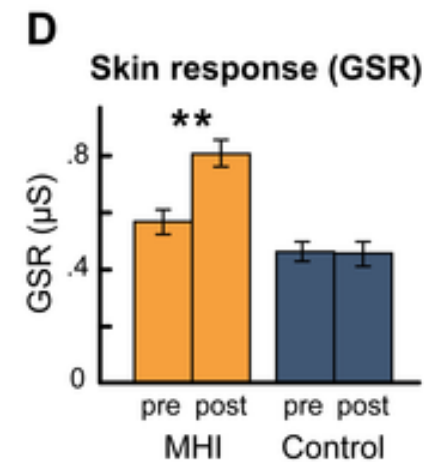
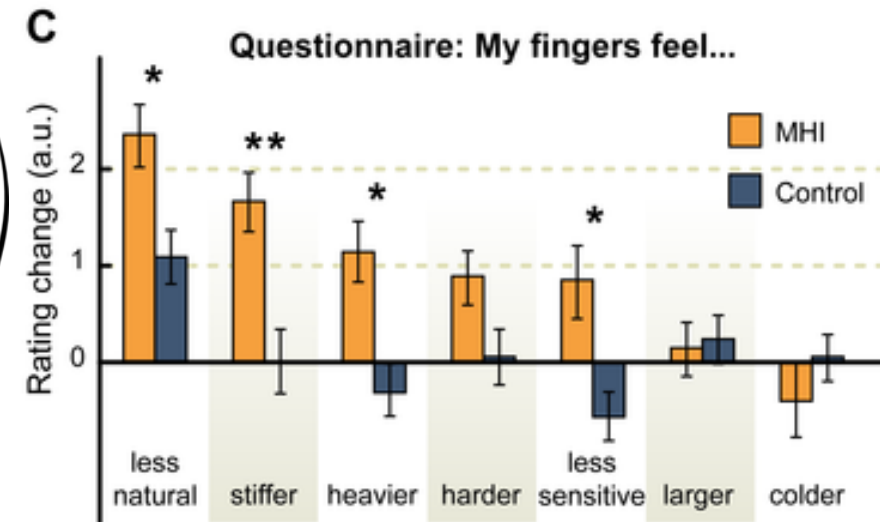
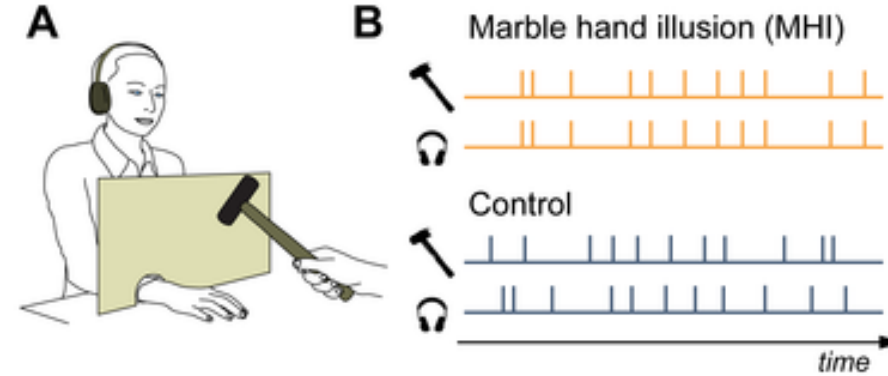
Rubber hand illusion:



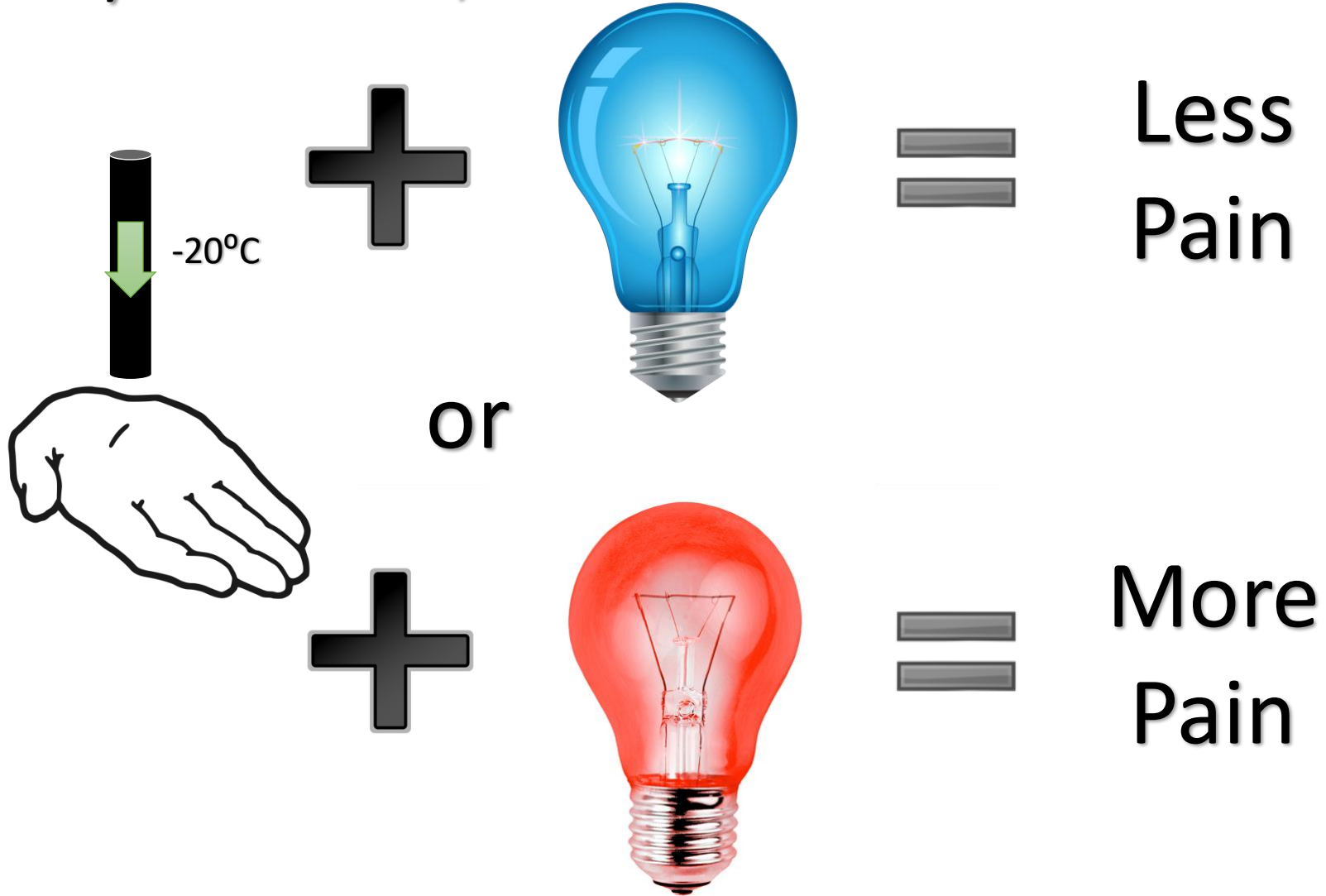
Senna et al.,
2014:



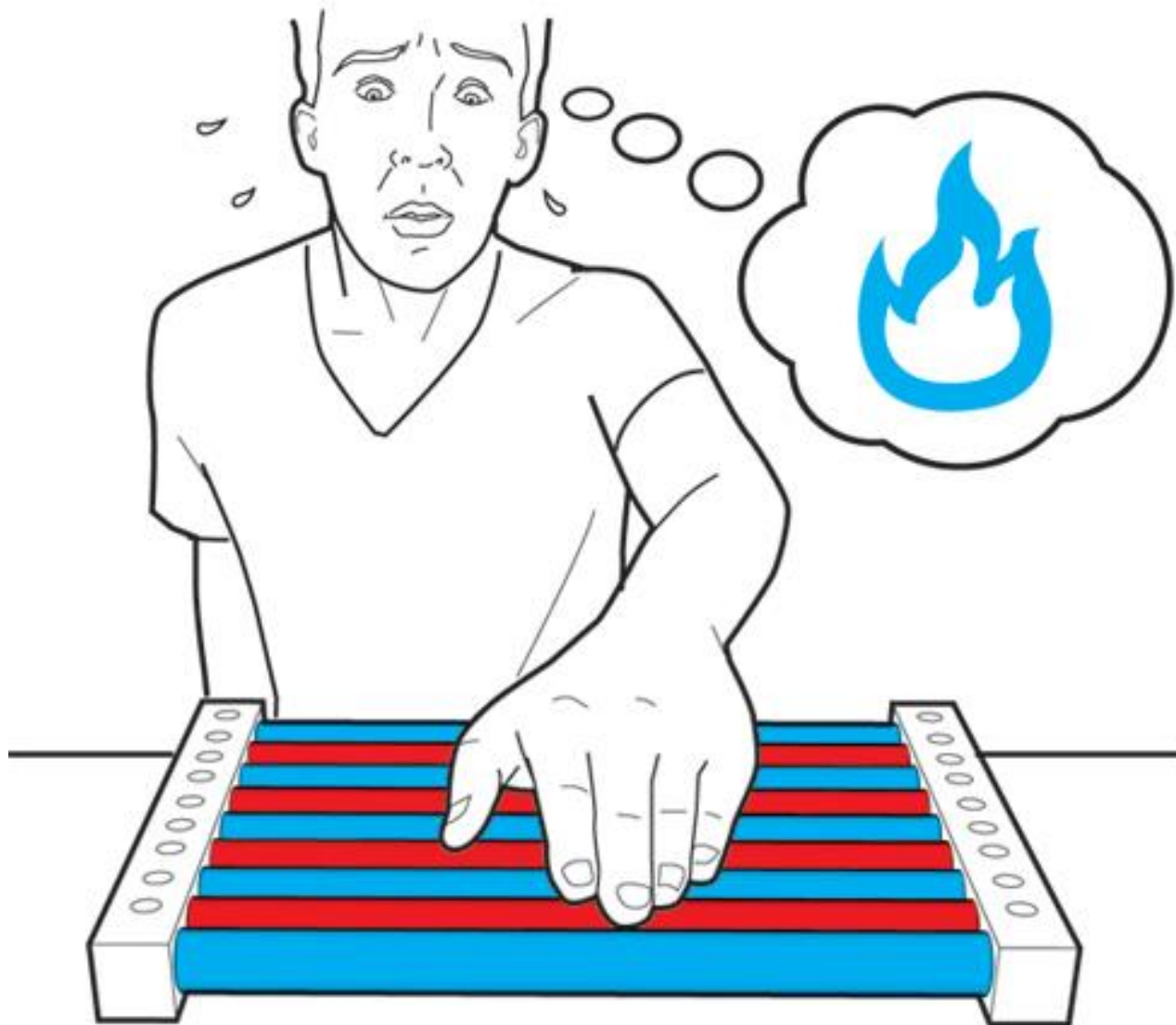
Sense of
what you are
made of



Moseley & Arntz, 2007:



Thermal Grill illusion







News



Stanton et al., 2018:

Stretch

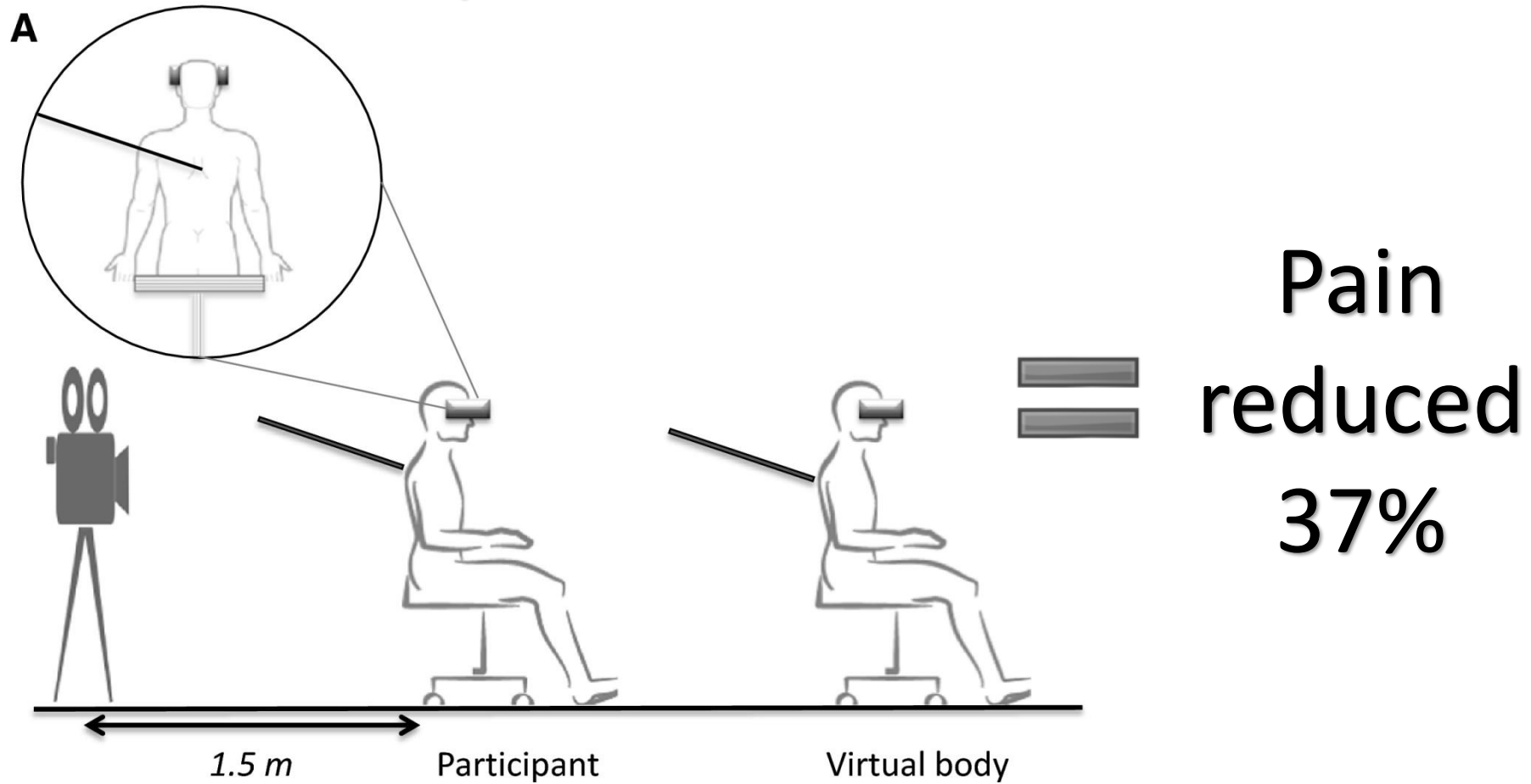


Shrink



Pain
reduced
40%

Pamment & Aspell, 2017:





THE COGNITIVE BIAS CODEX

What Should We Remember?

To avoid mistakes, we aim to preserve autonomy and group status, and avoid irreversible decisions

To get things done, we tend to complete things we've invested time and energy in

To stay focused, we favor the immediate, relatable thing in front of us

To act, we must be confident we can make an impact and feel what we do is important

Need To Act Fast

We store memories differently based on how they were experienced

We reduce events and lists to their key elements

We discard specifics to form generalities

We edit and reinforce some memories after the fact

We favor simple-looking options and complete information over complex, ambiguous options

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We project our current mindset and assumptions onto the past and future

We notice things already primed in memory or repeated often

Bizarre, funny, visually striking, or anthropomorphic things stick out more than non-bizarre/unfunny things

Too Much Information

We notice when something has changed

We are drawn to details that confirm our own existing beliefs

We notice flaws in others more easily than we notice flaws in ourselves

We tend to find stories and patterns even when looking at sparse data

We fill in characteristics from stereotypes, generalities, and prior histories

We imagine things and people we're familiar with or fond of as better

We simplify probabilities and numbers to make them easier to think about

We think we know what other people are thinking

Not Enough Meaning

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The Peak-End Rule

How you remember an event depends on:

- The peak—the maximum feeling, how much pain, cold, hot, happiness, boredom, etc.
- The end—how did the experience end? Things that end well are remembered more positively.

Applies to both positive and negative events

Duration (the length of the experience) doesn't matter.

Kahneman, Fredrickson, Schreiber & Redelmeier, 1993

Trial 1

One hand 14°C for
60 seconds

Painful



Trial 2

Other hand 14°C
for 60 seconds

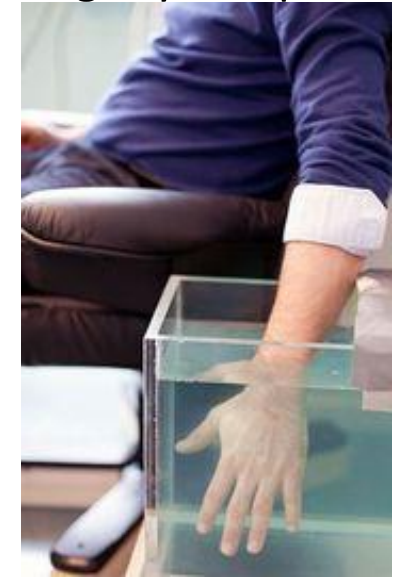
Painful



+

That hand 15°C 30
more seconds

Slightly less painful



Results

Participants said they would be more willing to repeat Trial 2 than Trial 1(!).

Trial 2 had all the pain of Trial 1, plus an additional 30 seconds of not-quite-as-bad pain

Peak pain was the same. But because Trial 2 ended better, it was remembered as being more pleasant (or less unpleasant).

Redelmeier, Katz, & Kahneman, 2003

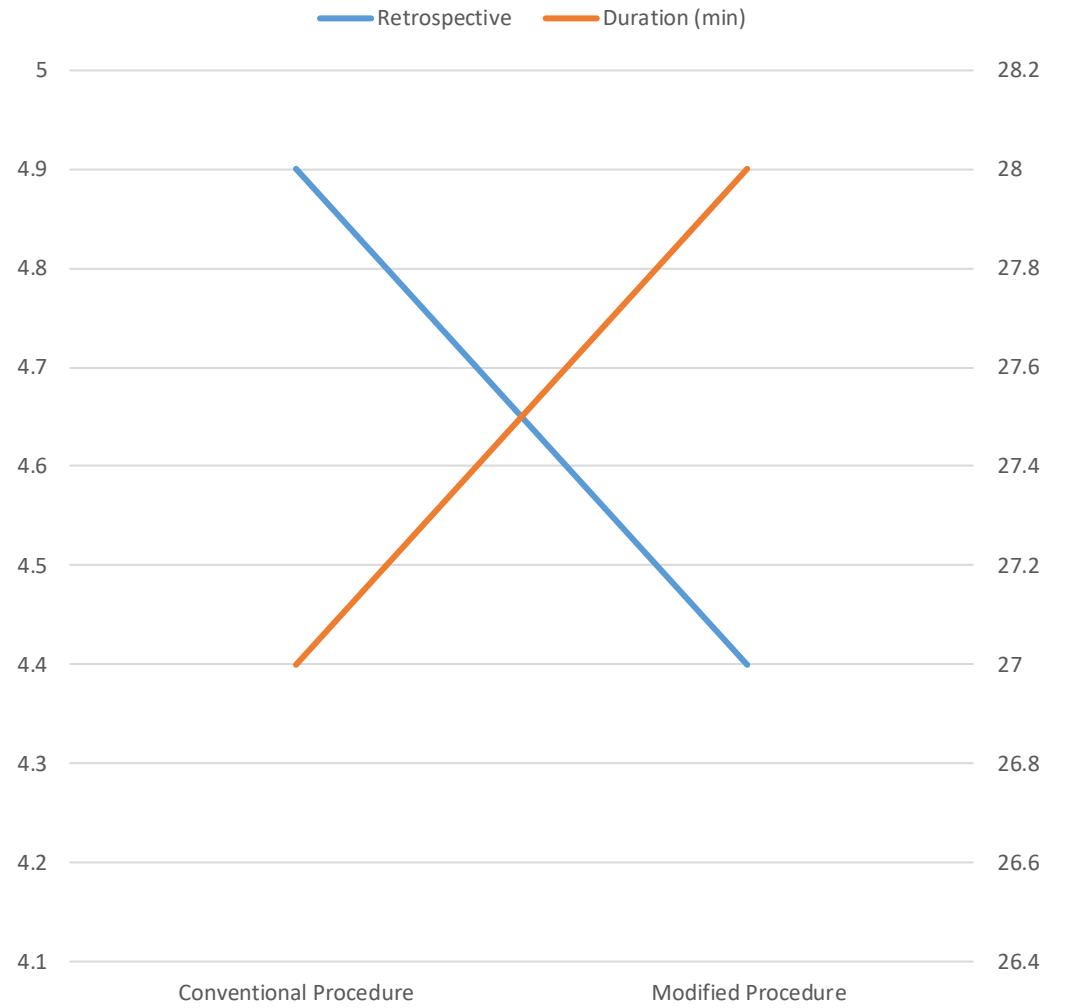
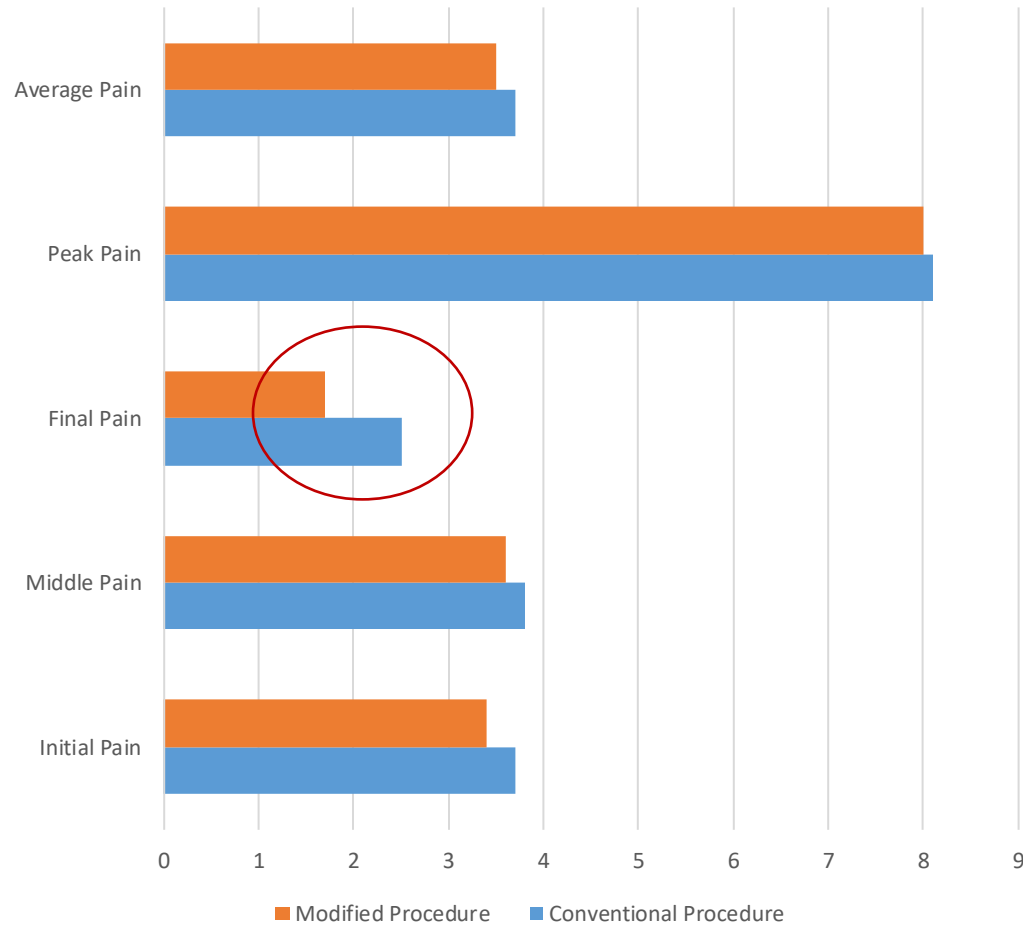
Group 1:
Conventional
Procedure

Normal
Colonoscopy
(painful)

Group 2:
Modified
Procedure

Normal
Colonoscopy
(painful) + Probe left in 1-2
minutes extra
(less painful)

Real-time Ratings



Patients in the prolonged discomfort group were far more likely to attend for repeat colonoscopy because a less painful end led them to remember the procedure more positively.



- What's this got to do with sickle cell?



Our patients present in acute pain, e.g., A&E, daycare, inpatient admission

Or attend for procedures that are painful, e.g., femoral line insertion, port access, cannula insertion

When a patient presents with acute sickling, we can usually provide them opioid pain relief or some other procedure (e.g., RCE)


When this works, there's no problem—it ends well, the patient is relieved, they will remember the experience positively

But what
about when
things do
not go well?

What if you cannot give them
the opioids they want?

What if you give them opioids,
but it doesn't work?

What if the patient does not
want opioids, but also can't
cope on their own?



Always leave people
better than you found
them. Hug the hurt.
Kiss the broken.
Befriend the lost.
Love the lonely.

Remember, pain is both a sensory and an *emotional* experience.

If the person cannot cope, they usually cannot cope *emotionally*

You may not be able to take away the sensation, but what might help the emotional part?

What do we do in all the other instances of pain in our lives?

"Brilliant, powerful, and provocative, *Against Empathy* is sure to be one of the most controversial books of our time."
—DANIEL GILBERT, author of *Stumbling on Happiness*

AGAINST EMPATHY

The Case for Rational Compassion



PAUL BLOOM

Author of *How Pleasure Works* and *Just Babies*

Some Ideas (maybe
you're already doing
these)

Really listen.

Help them stay calm.

Ensure they are comfortable (as possible).

Let them know you are there to do all you can.

Reassure them you will keep them safe.

They are not suffering alone. You're there.

Your ideas?

Thank you for listening.