“Take a little off the top here”
Ambiguity and vagueness in the operating room

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Making surgery safer… with language
How surgical instruction typically works
Surgical language is not ‘surgical’
Communication involved in 44% of errors

Can we get to the source of misunderstanding?
How common is ambiguity?

Counted possible ambiguities in surgeries

“Take a little bit off the top here”

- How much is “a little bit”?
- Which side is “the top”?
- Where exactly is “here”?

(degree modification)
(directional framing)
(deixis)
Is there *actual* misunderstanding?

Filmed 6 surgeries

Interviewed participants

Were they on the same page?
Directional framing

“pull up”

Which way is up?
Most directional framing is resolved right away

Case 009

anterior maxillary resection with a maxilla bone graft

[cutting & rebuilding the roof of a mouth]
Case 961

Right fibula non-union repair
[putting a broken shin bone back together]

But sometimes it is not resolved well
Implicit instruction

Instruction delivered by conversational implicature

How common is it?

- 68% implicit
- 32% explicit
Most implicit instruction is resolved right away

Case 454

Parathyroidectomy

[removal of the parathyroid gland]
But resolution can be difficult

Case 827
Abdominal hysterectomy
[removing uterus through abdominal incision]
What did we observe?

Some actual ambiguities did occur

People are really skilled at avoiding + resolving them

Still: The effort adds risk
Recommendations

- More direct instruction
- More attention to clarity
- Build language habits that increase patient safety
- Better links between linguists + professions
Thanks!

Special thanks to the surgical teams who consented to our presence and questions, and to the patients (who all had successful outcomes)