



**EORNA**  
EUROPEAN OPERATING ROOM  
NURSES ASSOCIATION

# 9th EORNA Congress

16-19 May 2019

The Hague, The Netherlands

CONGRESS ▾

SCIENTIFIC PROGRAMME & ABSTRACTS ▾

REGISTRATION & ACCOMMODATION ▾

PRACTICAL INFORMATION ▾

SPONSORS & EXHIBITORS ▾



# “ON THE MOVE”

9th EORNA Congress

The Hague, The Netherlands

16 - 19 May 2019

# Do you see what I see? The use of live streamed GoPro footage in the operating room, and its impact on the communication and anticipation skills of the instrument nurse: An exploratory study.

Renae Lee

Theatre Floor Coordinator, Epworth Geelong

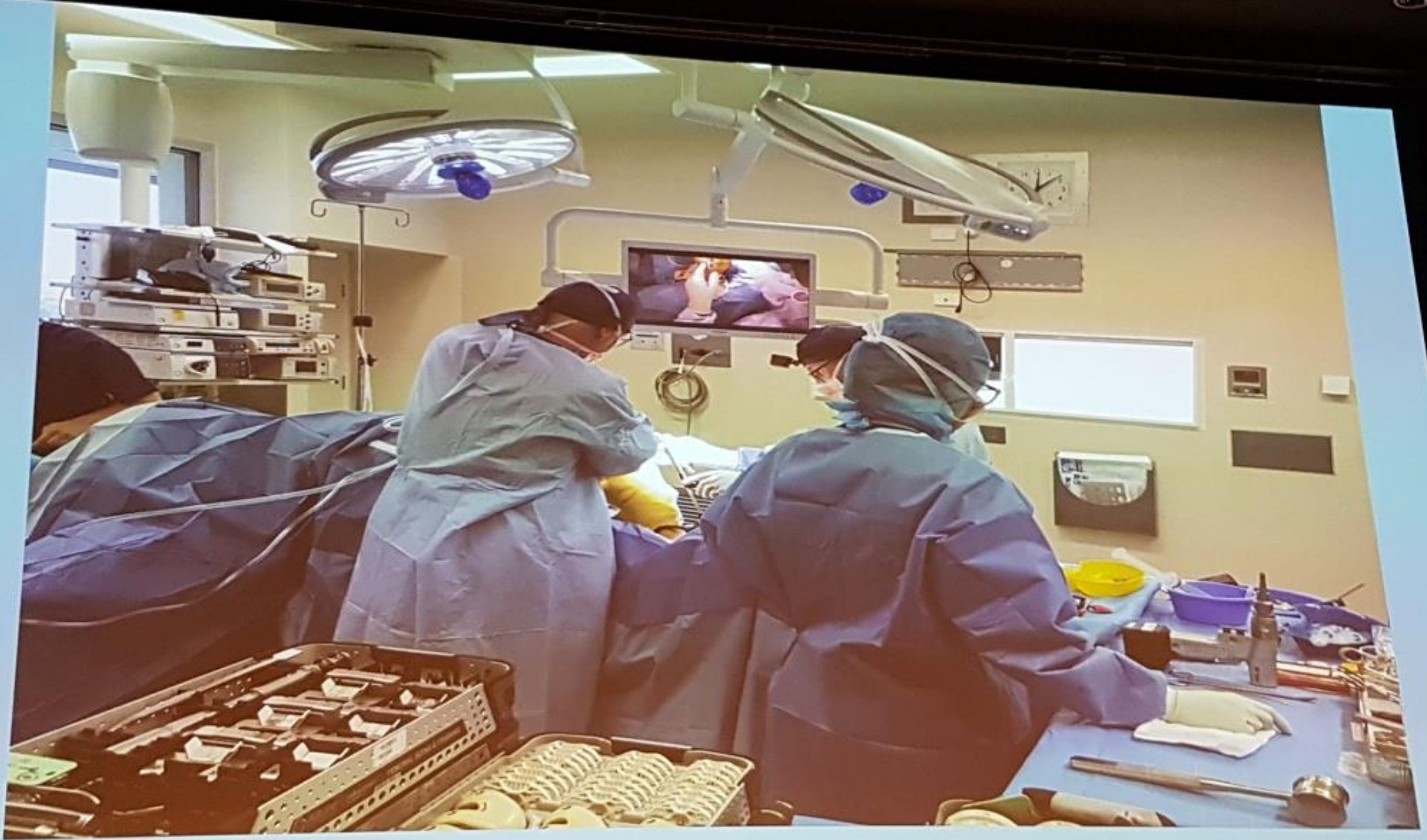
Candidate - Masters of Nursing, Deakin

University.

A/ Prof Pat Nicholson

Prof Elizabeth Manias





>10%  
patients  
harmed

Patient  
safety

41% of all errors  
occur in the  
operating room

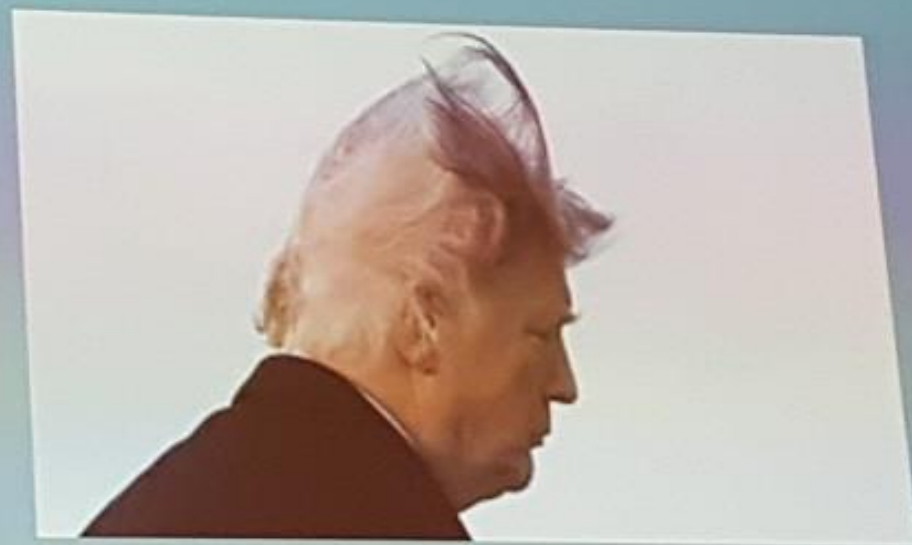
50% are  
preventable

# Communication and anticipation

- Verbal
  - Tone
  - Timing
- Non-verbal
  - Body language
  - Hand gestures
  - Gaze
- Written

- Anticipation
  - Situation awareness
  - Knowledge
  - Seeing/hearing
  - Judicial wisdom

Where are we now?





# Literature Review

11 studies published using GoPros in the operating room:



- Mostly descriptive, observational or comparative descriptive
- Small sample size
- Education and self reflection
- No nursing based research



What impact does the use of live streamed GoPro footage have on the communication and anticipation skills of the instrument nurse?

What are the attitudes and experiences of instruments and surgeons regarding the use of the GoPro in the operating room?

# Method



Introductory semi-structured interviews  
n=25

Intraoperative GoPro usage  
n=50

Evaluation semi-structured interviews  
n=20

# Pilot Study

Surgical Procedure	No.
Insertion of fascial sling	1
Radical Prostatectomy	1
Breast Wide Local Excision	1
Hemithyroidectomy	1
Umbilical hernia repair	1
Total knee replacement	2
Total hip replacement	1
Open shoulder capsular shift	1
Laminectomy and discectomy	1

Table 1: Pilot study-surgical procedures

## Phase 1: Introductory Semi Structured Interviews

- 15 instrument nurses
- 93% female
- 93% registered nurses
- 9.6 years of experience (0.3-42 years)
- 10 surgeons or surgical assistants
- 80% male
- 20% surgical nurse assistants
- 18.5 years of experience (3.5-39 years)

# Thematic Framework

## Communication

Types of communication  
Communication and team work  
Barriers

## Anticipation

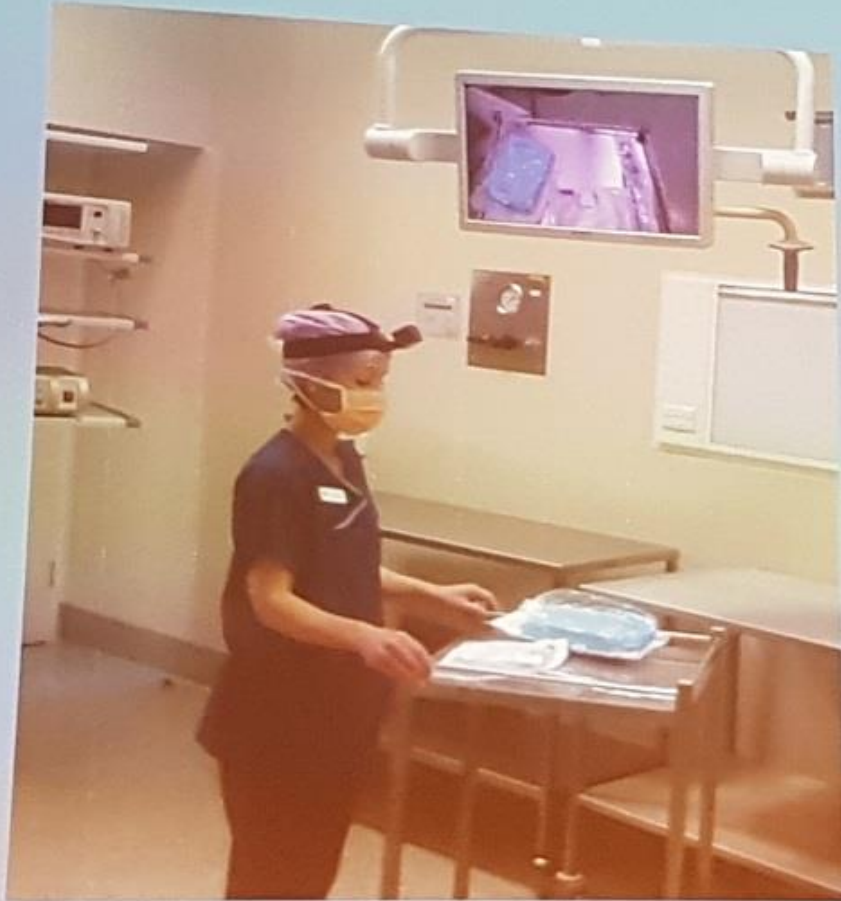
- Types of anticipation
- Anticipation and team work
- barriers

## Knowledge and experience

## Attitudes towards GoPro

“By seeing what’s happening, what’s going on. Which at my great height of 5 foot nothing, can be quite difficult. So I tend to be looking on tippy toes or on a step at times, trying to perceive what’s happening next, as well as learning. It can be difficult.” [IN3]

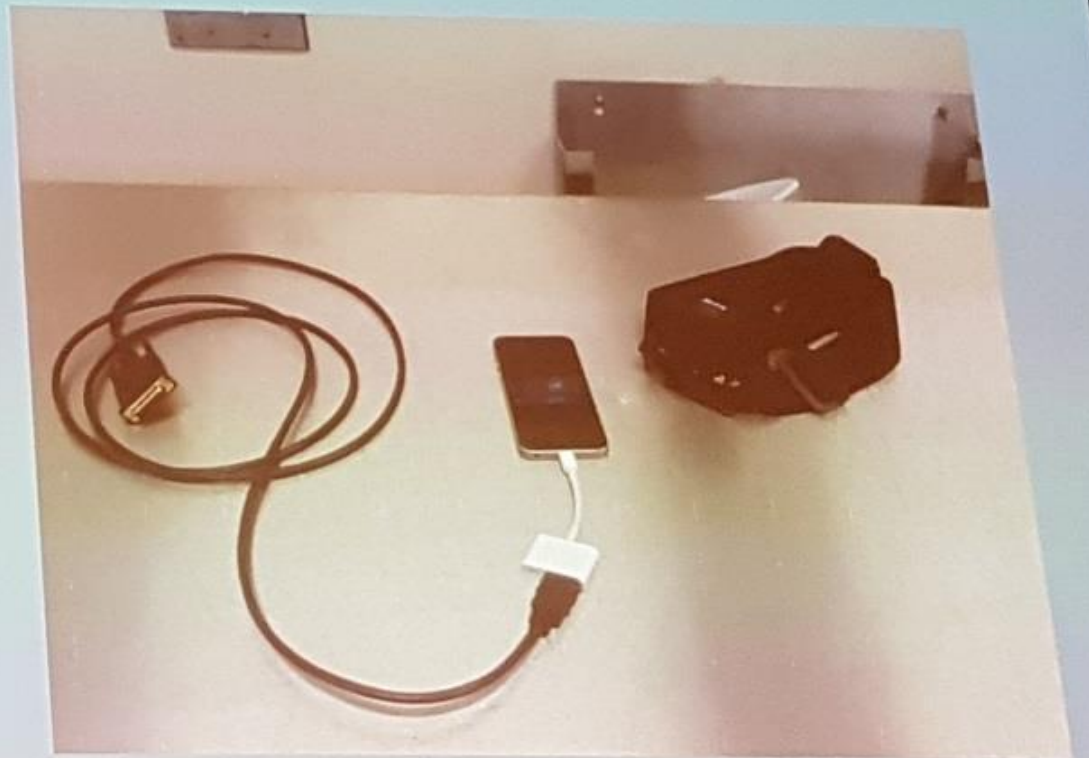
## Phase 2: Intraoperative Data Collection



- 50 open surgical procedures Sept-Nov 2017
- Inclusion criteria:
  - Open surgical procedure where there is limited view of the operative site
  - Expected operative time was less than 2hrs.
  - Patient over the age of 18 years old.
- Exclusion criteria:
  - Obstetric procedures
  - Procedures where the patient was awake

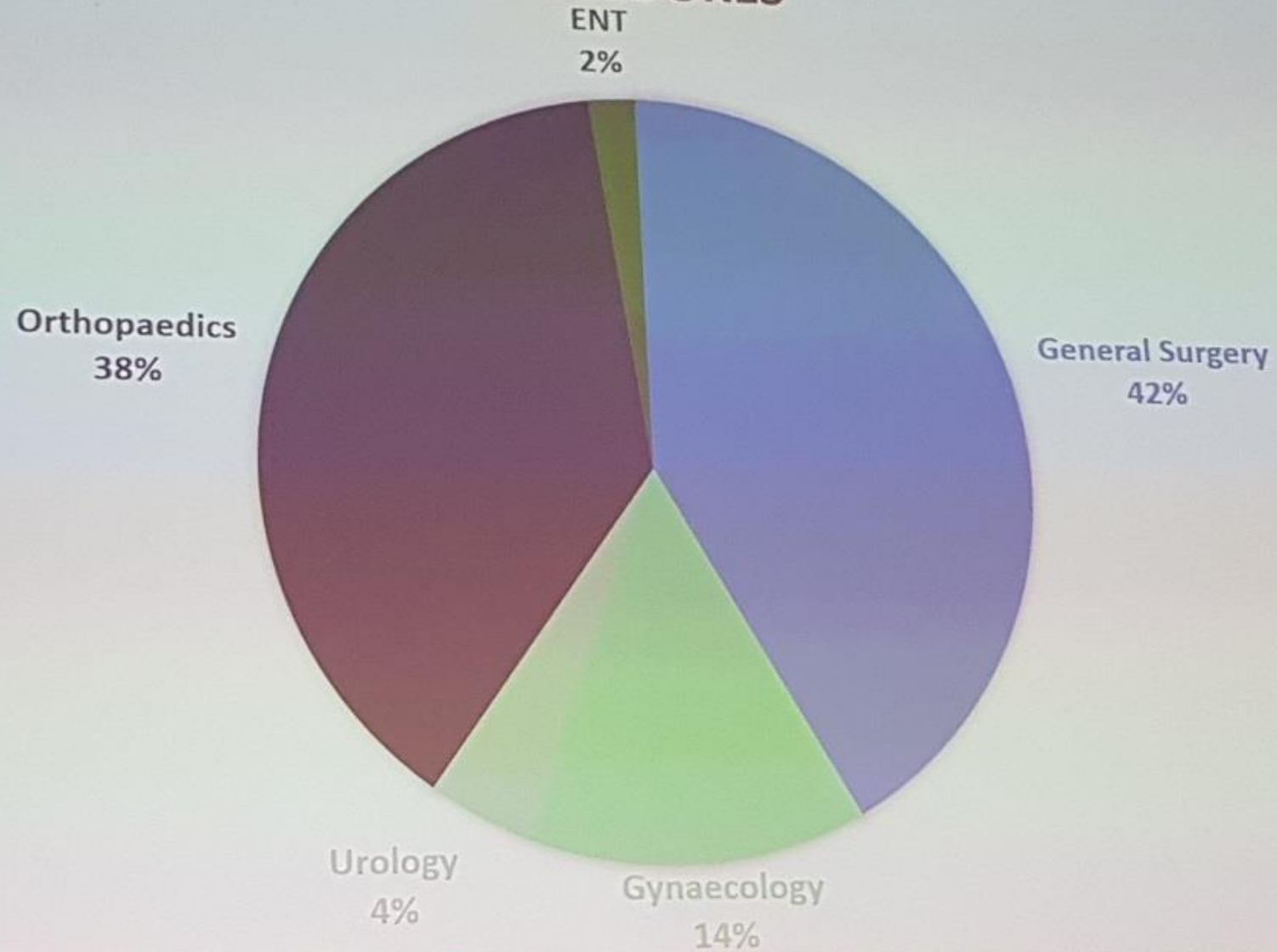
# Technical aspects

- GoPro Sessions Hero 5 mounted on head strap
- GoPro synced with GoPro app on iPhone
- Lightning to HDMI/SDI adapter required to connect iPhone to SDI input
- HDMI connected to Olympus integrated image system
- Displayed on x 3 high definition screens
- GoPro settings: camera mode, narrow frame, 1080 pixels, 30 frames per second.
- SwivelMount attachment used with Stryker orthopaedic hoods.





# CHART 1: INTRAOPERATIVE DATA COLLECTION - SURGICAL PROCEDURES



# Participant feedback:

- Strengths

- I can see what the surgeon sees
- Great for teaching
- Kept me engaged
- Knowing how the case was going
- Comfortable to wear

- Limitations

- Lack of zoom
- Positional issues
- Head clashing
- Technical challenges
- Headache

## Phase 3: Evaluation Interviews

### Communication

- Nurses 5.5 (1-8.5)
- Surgeons 6.4 (5-8)

### Anticipation

- Nurses 6 (2-8)
- Surgeons 5.1 (3-8)

### Attitudes to GoPro

"...helping the theatre staff to know what is going on and anticipate the surgeon's needs." [ES1]

"Biggest strength, I think, is to give everyone in the theatre just a better vantage point to see what's going on, pre-empting the next step, or something bad or adverse occurring, so you can all react." [EN3]

“...from a learning tool, I think it’s absolutely spot on, because if the junior staff are seeing the action, whether they’re scrubbed in or not, it’s ideal, because you’ve got the surgeon’s view – when it’s set up correctly – and you can see not only the physiology but steps of a procedure, why they use certain sutures, what they do. As a leaning thing, it’s great. I think it’s more a supplementary thing for experienced staff; I don’t think it can replace the skills we have, but it’s definitely a good learning tool.”

[IN2]

# Discussion

Positive impact on communication and anticipation

Good tool for education. Desire to record for teaching

Wide variety of surgical procedures

Short study duration = skill acquisition?

Technical limitations and technical fatigue



Introductory interviews: Communication, anticipation, experience and knowledge, Attitudes towards GoPro



GoPro usage in 50 procedures. Case mix: 5 surgical specialties. Positive feedback from other members of the intraoperative team



Most suited to hernia repairs, breast endocrine and joint replacement. Zoom function desired. Technical limitations



Evaluation Interviews: Positive impact on communication and anticipation scores. Great for teaching/learning



Recommendations: Great education tool. Future research. GoPro 6 with zoom function.

Thank you!

Do you see what I see? The use of live streamed GoPro footage in the operating room, and its impact on the communication and anticipation skills of the instrument nurse: An exploratory study.

