



Conducting Research in the Operating Room

Practical advice on visiting this challenging environment

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Conducting Research in the OR

contents

Introduction

Planning and Logistics

Operating Room Etiquette

Documenting the Experience

Demonstration:
Credentialing services

Demonstration:
Video clips from an OR
observation



INTRODUCTION

why this topic now?

None of the HF literature on conducting research in the OR describe the processes for recruiting, gaining access, OR etiquette, documenting the visit, etc.

Conducting observational research in the OR will become more important as medical devices and procedures continue to evolve.

Introduction

presenter

Beth Loring

Certified Human Factors Professional with 25 years of experience.

Extensive experience in the medical, consumer, software, and web industries.

Has also conducted research in operating rooms during orthopedic (spine, lower and upper extremity, arthroscopy) and cardiothoracic (open heart and minimally invasive) cases.





Introduction

presenter

James Rudolph

Industrial designer with experience in medical and laboratory products.

Currently pursuing a master's degree in Human Factors.

Design experience ranging from robotic orthopedic instruments to cardiovascular handheld devices.



PLANNING AND LOGISTICS



Planning and Logistics getting into the OR

Getting into the OR can be one of the biggest and most time consuming hurdles.

There are three common routes that we have taken:

- 1 Accompany a device manufacturer's sales representative.

- Sales reps have relationships with OR managers and surgeons.

- They have access to restricted areas in the hospital.

- They usually know the layout of the hospital.

- They are common, well known visitors.

- 2 Recruit from leads provided by the device manufacturer.

- Manufacturers provide a list of surgeons who may be interested in participating.

- Often, similar results to cold calling.

- 3 Standard recruiting methods.

- Cold calling, advertising online, flyers.

- Compile and maintain a list of surgeons from online sources.

Planning and Logistics

credentialing services

You will need to provide credentials proving that you are *trained* and *immunized* in order to enter the perioperative area. Our colleagues have been turned away at the door for not having adequate credentials.

Typical training includes:

- HIPAA
- Bloodborne pathogens
- OR etiquette

Immunizations include:

- Hepatitis B
- TB
- Sometimes chicken pox and MMR
- Sometimes a flu shot

The screenshot shows the Reprax website. At the top left is the Reprax logo. To the right is a login form with fields for Email and Password, and a Sign In button. Below the login form is a navigation menu with links for Home, About, Services, FAQ, and Contact. The main content area features a headline "Reprax and VendorClear Join Forces" followed by three sections: "More than 2,100 Facilities", "Status", and "Dedicated help desk". At the bottom of the content area are two blue buttons: "Learn More" and "Press Release (pdf) Frequently Asked Questions (pdf)".

The screenshot shows the Vendor Credentialing Service (VCS) website. At the top left is the VCS logo. To the right is a search bar and navigation links for Home, Log In, and Contact Us. Below the logo is a navigation menu with links for Home, Register Now, Hospital Info, Vendor Info, Our Customers, Online Training, and About Us. The main content area features three sections: "NATIONAL TV SPOTLIGHT ON VCS" with a video player, "WATCH A SHORT MOVIE ABOUT OUR SERVICES!" with a video player, and a "LIVE SUPPORT" chat window with a user ID and password field and a LOG IN button.

Checklist for Customer Research

- Recruit participants & finalize schedule
- Create interview scripts and review with client
- Create data collection sheets and review with client
- Create video informed consent form
- Create cash receipt
- Get directions to each location
- Call to remind/confirm with contacts the day before
- Bring:
 - digital camera
 - camcorder & tripod
 - voice recorder
 - blank videotapes
 - extra batteries and battery charger
 - clipboard, paper & pens
 - scripts/data collection sheets
 - consent forms & receipts
 - directions & contact phone numbers
 - cash for reimbursements

Every night:

- recharge camcorder batteries
- recharge digital camera batteries
- upload photos to computer & delete from camera
- rewind that day's tapes & label
- label next day's tapes

Planning and Logistics preparation

Being prepared to document the experience is crucial to achieving your research objectives.

Checklists help ensure you don't forget anything.

- Establish a set of checklists relevant to your company for different research activities.
- To the left is a standard checklist we use for research in the OR.



Planning and Logistics

getting permissions

Documenting the experience is extremely important, but in the hospital environment it can be difficult or sometimes impossible.

- Obtain permission from the institution ahead of time and confirm *several times* during the recruiting process that you will be taking photos or videos.
- Patient consent:
 - You need to get patient consent to observe.
 - Sometimes the institution will handle this for you.
 - We recommend bringing your own consent forms just in case.
- Surgeons in teaching hospitals are usually accustomed to photos and videos.
- You should be trained in patient confidentiality and never take photos of the patient or his/her identifying information.

Planning and Logistics

when you arrive at the hospital



If using a credentialing service, you often sign in and print your badge in the hospital lobby.

You will need to check in at the OR front desk.

You may be asked to sign a visitors sheet, and/or a HIPAA agreement before you are allowed to observe.

You will need to change into OR attire.

Planning and Logistics

OR attire

Includes: scrub top, scrub pants, hat, mask, and shoe covers.

Some hospitals have asked us to bring our own scrubs.

Additional considerations:

Operating rooms are cold – you may want a long-sleeved shirt underneath.

Be sure to wear comfortable shoes! You will be standing for a long time on a hard floor.

If the procedure uses X-ray, be sure to wear a lead apron and thyroid shield.



Planning and Logistics

practical considerations

Days in the hospital can be very long...up to 12 hours if you observe multiple cases.

Expect to wait around for a while. Sometimes surgeries don't start at their appointed time.

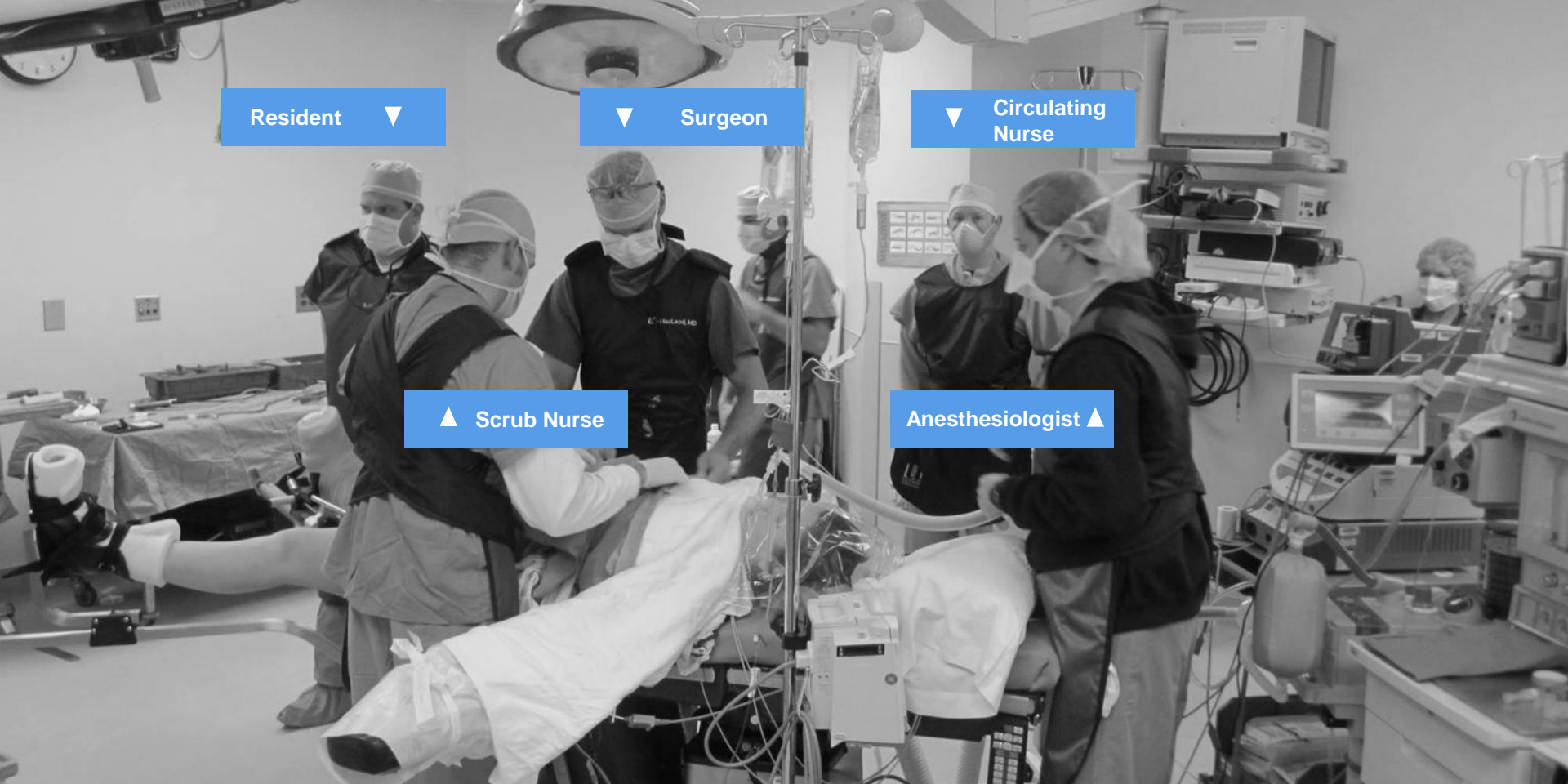
Sometimes the number of observers allowed in the OR is limited.

You may be allowed in the OR as they are setting up, or you may be asked to wait outside until the patient is transferred or draped.

Ask what you are able to bring into the OR, for example, a camera bag or briefcase.



OPERATING ROOM ETIQUETTE



Resident ▼

Surgeon ▼

Circulating
Nurse ▼

▲ Scrub Nurse

Anesthesiologist ▲

Operating Room Etiquette [communication](#)

Introduce yourself to the circulating nurse and explain why you're there.

Don't assume that the circulating nurse and the rest of the OR staff know who you are.

Know the roles of the personnel in the OR. Act respectfully toward every member of the surgical team, regardless of his or her role.

You may be asked for your name or to provide a business card – they document who is in the room for every operation.



Operating Room Etiquette

sterility

There are some basic rules you should know regarding sterility:

- 1 If it's blue, don't touch it or reach over it!
- 2 Anything draped in clear plastic is also sterile (for example, the C-arm X-ray machine).
- 3 If you're unsure whether or not something is sterile, assume it is.
- 4 Never, under any circumstances, brush up against the surgical table, draped equipment, or anyone sterile.
- 5 Assume that anything lying on the floor is unsterile and don't touch it.

Operating Room Etiquette

movement in the OR

The safest bet is to stand up against the wall out of the way and wait to be told if they'd prefer you in a specific location.

Keep your hands and arms close to your body. Stay away from the sterile field.

If you have a briefcase or camera bag, tuck it out of the way in a corner or behind you near the wall.

If you move around to get a better view, do so very slowly and carefully.



DOCUMENTING THE EXPERIENCE

Documenting the Experience during the procedure

If you're new to observing surgeries, certain parts of the procedure may bother you.

Don't worry, the more you're in the OR, the less it bothers you.

If you feel weak or light-headed, sit down or step out.

Ask the circulator where it's appropriate to sit.

If you are ever asked to leave, for whatever reason, do so immediately and take your things.





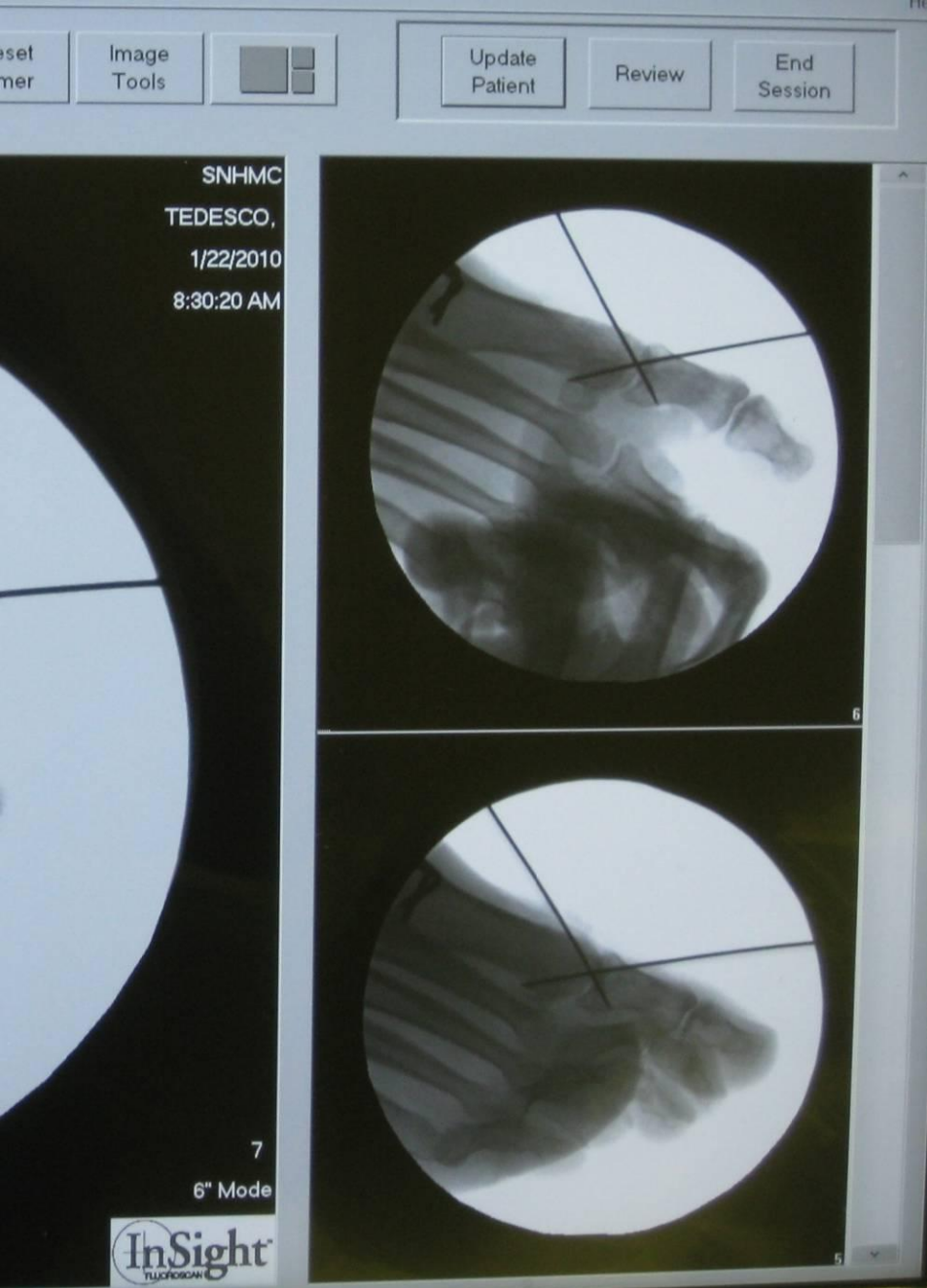
Documenting the Experience asking questions

Ask if it's OK to ask questions about what staff members are doing. Don't just assume it's OK.

Don't take offense if the surgeon ignores you during the procedure.

OR staff may not talk to you during a case. They are trying to listen to what the surgeon says.

Do keep the camera rolling. It's very easy to miss an important observation through side conversations and other distractions.



Documenting the Experience

getting digital media from hospital equipment

There may be challenges in trying to get recorded digital media, such as arthroscopic videos or x-ray images, from the hospital.

Often, recorded media will have the patient's name clearly visible. These will need to be removed once you receive the files.

Sometimes the surgeon will forget to start recording video. Kindly remind the surgeon to press the record button at an appropriate time.

Clarify with the hospital what storage format you will need. For example, some arthroscopic equipment will only record to specific DVD formats.

Documenting the Experience

after the procedure

Try to schedule an interview with the surgeon and/or other OR team members after the surgery. This is a good time to ask questions you may have thought of during the procedure.

When the case is over, we leave the room and wait in the staff lounge or (if it's the last case) change out of our OR attire.

We always have a standard list of questions, but often add specific clarifications about what happened during the procedure.

Be mindful of the physician's time, end the interview with a profound "thank you," and offer the incentive if appropriate.



Documenting the Experience

demonstration: video clip from an observation



Conclusion



Conducting research in the Operating Room is challenging but rewarding.

Take photos and videos if possible, but follow the rules.

Always be respectful, professional, and flexible.

Every hospital visit is different.

Good luck!



THANK YOU.

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