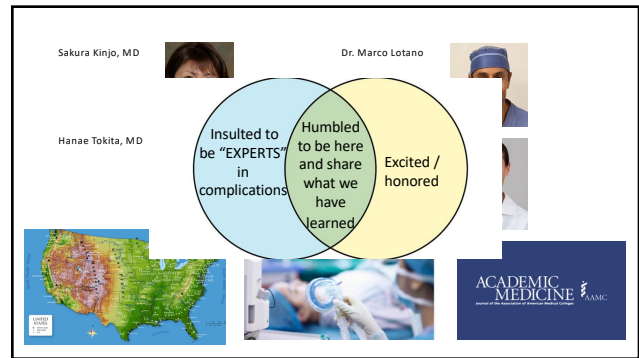
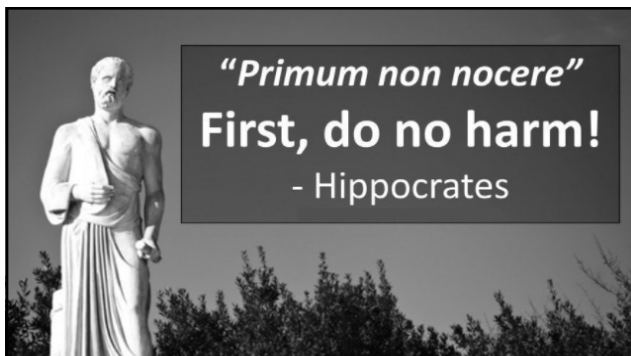




1



2



3

Benefits of Regional Anesthesia

- Improved analgesia
- Improved patient satisfaction
- Decreased length of stay
- Hemodynamic stability
- Bypass of Phase I recovery
- Outpatient surgery
- Decreased cardiac risks
- Hemodynamic stability
- Decreased admissions
- Longer time to first analgesic
- Cost effective
- Improved functional outcomes

- Decreased opioids
- Decreased opioid side effects
- Avoidance of general anesthesia
- Decreased risk of DVT
- Improved graft survival for AVF
- Decreased blood loss
- Decreased PONV
- Early mobilization
- Decreased length of stay
- Reduced unplanned admission
- Less cognitive impairment
- Avoidance of airway manipulation

4

Regional Anesthesia

Consent for Peripheral Nerve Blocks

Block: ☐ Benefits ☐ Alternatives ☐ Leaflet given

Procedure: ☐ Pain ☐ Paraesthesia (pins and needles)

Risks:

- ☐ Bruising
- ☐ Infection
- ☐ Failure
- ☐ L.A. toxicity
- ☐ Damage to local structures
- ☐ Nerve damage - Temporary 1:100
- ☐ Nerve damage - Permanent 1:5000

Block specific risks: _____

Intravascular Injection

5

Disclosure

- Nothing to disclose except:

I have made many mistakes *and botched some blocks* in my career....

The only real mistake is the one in which we learn nothing

-Henry Ford

6

Safety Checklists in Regional Anesthesia Goals and Objectives:

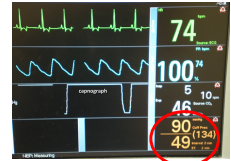
- Is there error? Is there a need?
- The Safety Checklists in Regional Anesthesia
- Do Safety Checklists work?



7

Just another (busy) day in the OR

- 60 year-old male for TKA
- Plan for continuous adductor catheter
- New attending covering three rooms
- After inducing one patient, I run to regional block room to perform pre-operative block
- Patient is prepped and draped by resident for continuous catheter
- Hypotension noted on monitor, distracted
- Block and catheter are placed ...



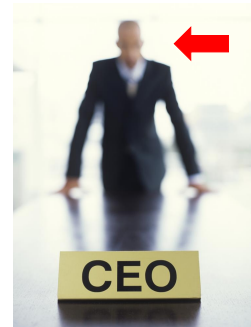
8



ON THE WRONG SIDE

9

It could be worse....



10

Is there Error when performing regional blocks?

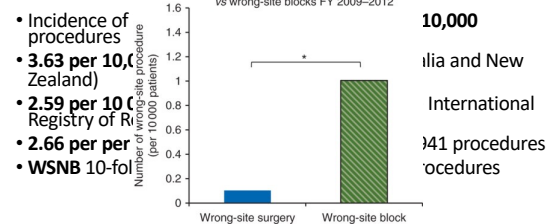
YES!!!!!!

- Complications in block technique
- Anti-coagulation concerns and failures
- Drug error
- Local anesthetic maximum dose
- Local Anesthetic Systemic Toxicity (LAST)
- Wrong Site Nerve Block (WSNB)

11

Regional, Acute Pain, Chronic pain: Wrong Site

Prevalence of wrong-site surgery vs wrong-site blocks FY 2009–2012



Henshaw 2013, Cohen 2010, Sites 2014, Henshaw 2019, Barrington 2015

12

Actual patient harm related to WSNB

- "Bilateral phrenic nerve palsies resulted in the patient undergoing artificial ventilation until they 'wore off'".
- Consequence of peribulbar block in wrong (left) eye: dense vitreous hemorrhage that precluded visualization of the fundus. The patient was then transferred to a quaternary referral center for further management.... She was discharged home 8 days later with normal visual acuity (10/10) in the right eye, but only light discrimination in the left eye (preoperative value of 8/10)" [21].
- "Following a left (correct) infragluteal sciatic nerve block, a right (incorrect) femoral block was performed. Following disclosure and apology, the patient and family decided to proceed with the operation and the patient received an uneventful general anesthesia with endotracheal tube placement. In the post-anesthesia care unit, the patient elected for a left femoral rescue block for pain control. ... A reduced dose of local anesthetic was chosen owing to the concerns for cumulative toxicity".
- "After a left (incorrect) interscalene block," it was decided to proceed with surgery and use morphine intra-operatively and a morphine PCA for post-operative pain relief. An interscalene block on the right side was contraindicated due to the significant risk of bilateral phrenic nerve palsy".
- "...in two (15%) cases the physician refused to perform the second procedure out of concern for administering too much corticosteroid".
- "The error in laterality was discovered shortly after completion of the block and the anesthetic was converted to general anesthesia".

Deutsch 2018, Fox 1993, Edmonds 2005, O'Neill 2010, Cohen 2010, Nixon 2011, Simmons 2011

13

Risk Factors for Error

Procedural	Change in patient position (supine, prone) Environment changes (changing equipment position) Surgical mark problems (not visible, mark incorrect, mark absent) Distractions (phone calls, verbal, staff teaching, entry of other staff, alarms) Delay between timeout and procedure
Patient	Inadequate communication (heavy sedation/GA, language barriers, patient lacks capacity) Name similarity Unilateral procedures Abnormal anatomy Multiple procedures in the same patient Hemodynamic instability
Practitioner/Team	Multiple proceduralists Change of proceduralist Inadequate team communication Production pressure Practitioner fatigue Protocol/Checklist not followed Trainees or locums performing blocks
Organizational/Workplace	Inadequate local safety culture Inadequate local policies and processes Blocks outside the operating room Operating room scheduling changes

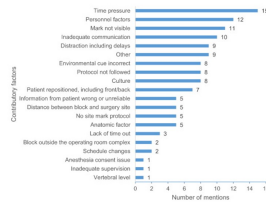
GA, General Anesthesia

Kwofie 2020

14

Risk Factors for Error

- Perceived time pressure
- Physician distraction
- Site marking not visible
- Poor communication
- Patient position change
- Scheduling changes
- Inadequate documentation
- Lack of surgical consent
- Inadequate supervision
- Fatigue, cognitive overload
- No time-out being performed



Stanton 2008, Barrington 2015, Deutsch 2018

15

Wrong Site Nerve Block



https://link.springer.com/chapter/10.1007/978-3-030-28267-7_9

16

What is a Checklist?

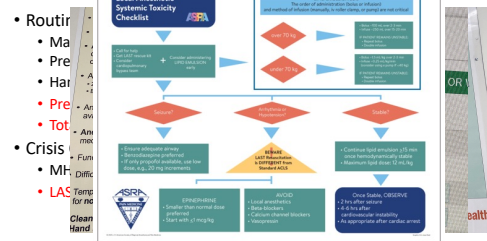
- Type of job aid used to reduce failure by compensating for potential limits of human memory or attention
- Consistency and completeness



Hales 2008; Wikipedia

17

Checklists



18

Safety Checklists

- 1999 - US Building an extensive
- 2008 - World 19 items for communication



A Surgical Safety Checklist

Allen R, Ferguson M, et al. The Checklist Manifesto: How to Get Things Right. New York: Dutton; 2009. 160 pp. ISBN 978-0-385-50499-2.



to Err is Human: Procedures garnered
ical Safety Checklist—
s by improving
room

19

The Checklist

- The Checklist is only successful when the teams using it are committed to the teamwork, discipline, and humility that it requires.

-Atul Gawande



20

ASRA

- 2014 guidelines on pre-procedural checklist

Regional Block Preprocedural Checklist

- 1) Patient is identified, 2 criteria
- 2) Allergies and anticoagulation status are reviewed.
- 3) Surgical procedure/consent is confirmed.
- 4) Block plan is confirmed, site is marked.
- 5) Necessary equipment is present, drugs/solutions are labeled.
- 6) Resuscitation equipment is immediately available: airway devices, suction, vasopressor drugs, lipid emulsion.
- 7) Appropriate ASRA monitors are applied: intravenous access, sedation, and supplemental oxygen are provided, if indicated.
- 8) Aseptic technique is used: hand cleansing is performed, mask and sterile gloves are used.
- 9) "Time out" is performed before needle insertion for each new block site if the position is changed or separated in time or performed by another team.

Mulroy 2014

21

Regional, Acute Pain, Chronic pain

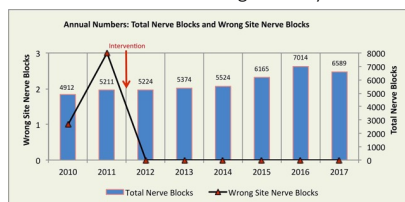
- Retrospective review 2 years before to 6 years after implementation of pre-procedural checklist for regional anesthesia (2010-2017)
- 3.95/10,000 WSNB procedures before checklist
- 0/35,890 after checklist



Henshaw 2019

22

Pre-intervention and post-intervention annual numbers of peripheral nerve blocks and the number of wrong-site nerve blocks occurring annually



Henshaw 2019

23

Risk Factors for Error

- Incidence of wrong-site blocks in large multi-hospital health-care system and review their associated risk factors
- 1.28 per 10 000 patients receiving unilateral blocks
- Highest with femoral nerve block
- All occurrences of wrong-site block after the implementation of the timeout policy involved **policy violations**

Hudson 2015

24

Anesthesia Checklists

- Systematic review of all anesthesia checklists
- 874 identified articles, 25 were included in review (up to 2019)
- Positive impact of the use of checklists was found in 23 (92%) of the 25 studies included in this review



25

Anesthesia Checklists

- Anesthesia-specific checklists have the ability to:
 - Decrease human error
 - Improve team communication
 - Increase quality of care
- Anesthesia-specific checklists useful in:
 - Provider handoffs
 - Emergencies
 - Routine procedures

Saxena 2020

26

Checklists
only work if
you
Comply....



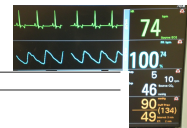
A reminder to anaesthetists and anaesthetic assistants:

- Verify site and side with patient and consent form.
- Mark the block site.
- Stop and confirm with assistant immediately before inserting block needle.

27

Just another day in the OR

- 60 year-old male for TKA
- Plan for continuous adductor catheter
- I am new attending covering three rooms



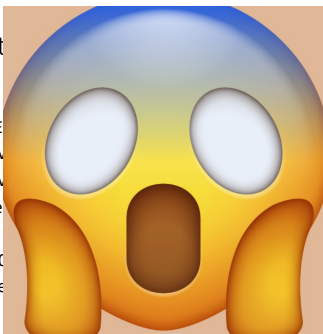
Regional Block Preprocedural Checklist

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- 6) Resuscitation equipment is immediately available: airway devices, suction, vasoactive drugs, lipid emulsion.
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- 8) Aseptic technique is used; hand cleansing is performed, mask and sterile gloves are used.
- 9) "Time out" is performed before needle insertion for each new block site if the position is changed or separated in time or performed by another team.

28

Just anot

- 79 year-old
 - Hx of CHF, E
 - Pre-operativ
 - Pre-operativ
 - Patient take
 - On incision,
 - Lidocaine 60
 - Surgeon inje
- aine
vacaine
on started



29

Lc

- P
- Ir
- b
- P
- Lc



= A LOT OF LOCAL ANESTHETICS

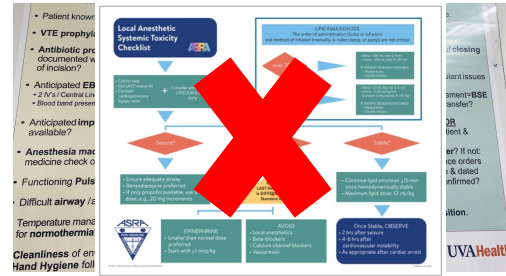
30

Time Out

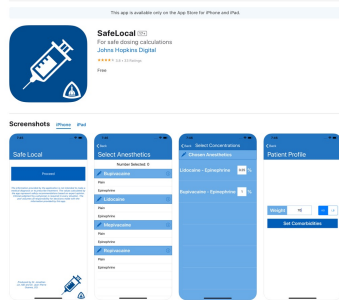
- Will Local Anesthetic be used during this case?
- Has Local Anesthetic already been used?
- Calculate (maximum) dose and write on white board.



31

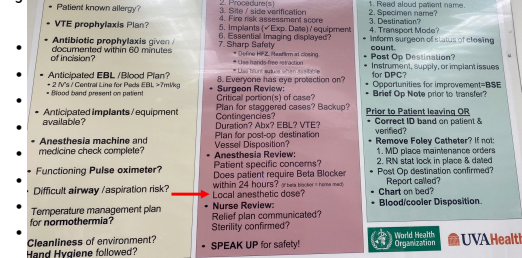


32



33

Just another day in the OR



34

Safety Checklists in Regional Anesthesia

USE THEM...

- Error reduction
- Improved patient safety
- Decreases Botched Blocks



Outpatient • Office Based • Non-Operating Room

35

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