

Ambulatory Anesthesia Adult and Pediatric

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Learning Objectives

1. Identify pediatric patients at risk for perioperative respiratory complications after elective surgery using the COLDS score
2. Discuss strategies to improve PACU stays for post-tonsillectomy patients
3. Review the latest literature around outpatient anesthesia care
4. Discuss ways to survive and thrive while Joint Commission comes for a visit
5. Identify best practices for policy around block time, block utilization
6. Identify ways to maintain psychological safety within an ASC

Updates in pediatric outpatient anesthesia

Identify	Consider	Understand
Identify pediatric patients at higher risk for perioperative respiratory adverse events (PRAE) using the COLDS score	Consider preoperative oxycodone to improve PACU stays post-adenotonsillectomy	Understand why some societies are decreasing NPO times for pediatric patients presenting for elective surgery

1. Perioperative respiratory events

2017 APRICOT study (Anesthesia PRactice in Children Observational Trial)

- 5.2% incidence of severe critical events in pediatrics (higher than adults)
- 75% of critical perioperative events were respiratory
- 30% of perioperative pediatric cardiac arrest due to pulmonary causes

If active or recent (<4 weeks) URI, rate of PRAE is 25-30% (vs 12% without)

Children ≤4 years average 6-8 URIs per year and airway reactivity can persist for 6 weeks

Perioperative respiratory events

- ▶ Other independent risk factors:
 - ▶ Age < 6 years
 - ▶ Primary pulmonary morbidity (e.g., asthma, prematurity, bronchopulmonary dysplasia, cystic fibrosis, pulmonary hypertension)
 - ▶ Infectious disease with significant impairment of child's general condition (e.g., fever ≥38.5 C, malaise, bacterial superinfection)
 - ▶ History of snoring
 - ▶ Secondhand smoke exposure
 - ▶ Type of airway device used
 - ▶ Experience of anesthesiologist
 - ▶ Type of surgery, secondhand smoke exposure
- ▶ Blanket cancellation avoids complications, but imposes emotional/economic hardship on patient, family, medical team.

Perioperative respiratory events

Using the COLDS score to assess risk for perioperative respiratory adverse events (PRAE)

Originally proposed in 2014 as a heuristic, organizational tool to standardize assessment of risk for PRAE



	1	2	5
Current signs and symptoms	None	Mild (Parent confirms URI and/or congestion, rhinorrhea, sore throat, sneezing, low fever, dry cough)	Moderate/Severe (Purulence, wet cough, abnormal lung sounds, lethargy, toxic appearance, or high fever)
Onset of symptoms	>4 weeks ago	2-4 weeks ago	<2 weeks ago
Presence of Lung disease	None	Mild (Hx of RSV, mild intermittent asthma, CLD if >1 yo, loud snoring, passive smoker)	Moderate/severe (Moderate persistent asthma, infant with CLD, OSA, pulmonary HTN)
Airway Device	None/Facemask	LMA/supraglottic airway	Endotracheal tube
D Surgery	Other (including PE tubes)	Minor airway (T&A, nasal lacrimal duct probing, flexible bronchoscopy, dental extraction)	Major airway (Cleft palate, rigid bronchoscopy, maxillofacial surgery)

Lee BJ & August DA. *Pediatric Anesthesia* 24 (2014): 339-357



COLDS Score

There is no "zero-risk" anesthetic

Any category scoring at 5 points could be a "red flag"

Minimum 5, maximum 25

Does not consider other risk reduction strategies (e.g., deep vs awake extubation, topical lidocaine, anesthesia by a pediatric specialist)

Originally heuristic, but now being validated

COLDS Score: initial validation

- ▶ Prospective observational study: <6 years of age, no cyanotic heart disease, no tracheostomy
- ▶ PRAE from induction to recovery (laryngospasm, bronchospasm, desaturation <90%, prolonged coughing more than a few min, need for beta agonist therapy)
- ▶ Assessed area under the receiver operating characteristic curve (AUC)
 - ▶ Moderately useful tool for predicting PRAE (AUC 0.69, 95% CI: 0.63-0.75)
 - ▶ Better in younger age group
 - ▶ 0 to < 2 years AUC 0.70, 95% CI 0.61-0.79
 - ▶ 2 to <4 years AUC 0.71, 95% CI 0.61-0.81
 - ▶ 4 to 6 years AUC 0.66, CI 0.56-0.77

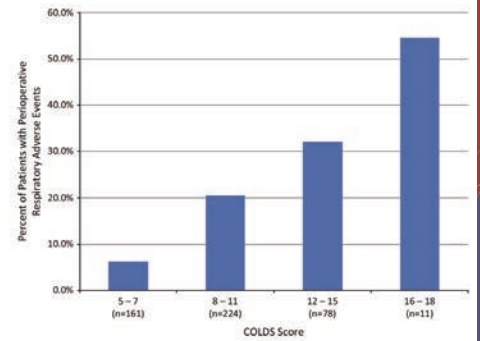


FIGURE 2 Percentage of patients with any respiratory adverse events (laryngospasm, bronchospasm, oxygen desaturation, prolonged coughing, need for bronchodilator) by COLDS score grouping [Colour figure can be viewed at wileyonlinelibrary.com]

Lee et al. *Pediatric Anesthesia* 28 (2018):1007-1014.

COLDS Score: more validation data

- ▶ Kim et al. (2022): Retrospective 5 year review
- ▶ PRAE: persistent cough, breath holding, hypoxemia <95% >30s, laryngospasm, bronchospasm, steroid/inhaler use.
- ▶ <18 years, elective surgery
- ▶ Low <12.5 vs High score
- ▶ AUC 0.652 ($p=0.007$)
- ▶ PRAEs increased as COLDS score increased



Independent Variables	OR	95% CI of OR	p-Value
(Constant)	0.040		0.002
Age (years)	0.855*	0.772-0.947	0.003
COLDS score	1.221*	1.022-1.465	0.028
Ongoing URTI symptoms	2.999*	1.157-7.775	0.024

Adjusted R² = 0.222. Hosmer and Lemeshow test $p = 0.160$, classification accuracy 81.0%. OR odds ratio; CI confidence interval. * $p < 0.05$.

Kim et al. *Medicina* 58 (2022):1340-1348.

Group L: URI onset >1w, rhinorrhea more prevalent

Group H: URI onset <1w, sputum more prevalent

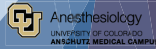
Logistic regression analysis: increased PRAE with decreased age, increased COLDS score, ongoing URTI symptoms

Cough and fever were similar



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Lee BJ & August DA. *Pediatric Anesthesia* 24 (2014): 339-357

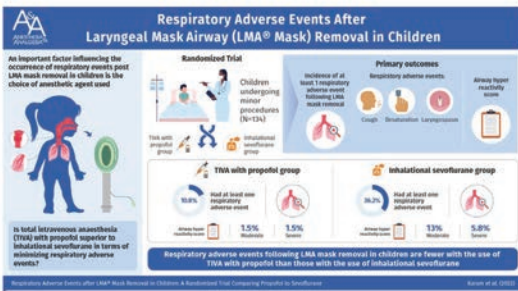


Perioperative respiratory events

- Summary
 - COLDS score can help stratify risk for PRAE in pediatric patients
 - Identify "red flag" conditions
 - Scores >12.5 are likely higher risk and warrant risk/benefit discussion for elective pediatric surgery



Other risk reduction strategies



February 2022: Massimo Sedline approved for patients down to 1 year of age



Outpatient pediatric adenotonsillectomy

80-90% of pediatric surgeries are ambulatory

Most take place outside of academic centers

Fewer pediatric anesthesiologists being trained



Pediatric obesity & tonsillectomy

- 2021 PEACHY study (PERiopeRAtive CHildhood ObesiTY)
 - Proportion with obesity was alarmingly higher than that reported by the National Child Measurement Programme
 - 24% overweight or obese (>98thile)
 - Obese children were more likely to undergo adenotonsillectomy than children with healthy weight (OR 2.15, 95% CI 1.58-2.92)
- More difficult mask ventilation (3.7% vs 0.6%, p<0.001)
- More snoring (other studies showing 13-61% have OSA vs 1-6% of normal weight)
- Almost 40% children with severe obesity were graded ASA-PS1
- Obese children are at greater risk of airway complications, suffer greater postoperative pain, require more anti-emetics, spend longer in PACU, and have increased length of stay after tonsillectomy.



2. Post-adenotonsillectomy

- Adenotonsillectomy: 289,000 annually
- Most common indications: obstructive sleep-disordered breathing (oSDB), recurrent tonsillitis
- Postoperative care can be challenging due to pain
 - Associated with prolonged PACU stays, unplanned admissions, and increased hospital costs
- Currently no consensus on optimal pain regimen for pediatric patients



Post-adenotonsillectomy

- ▶ Obstructive sleep disordered breathing (oSDB) and obstructive sleep apnea (OSA) have a higher incidence of PRAE
- ▶ Most children do not undergo formal polysomnogram (PSG) testing
- ▶ STBUR score ≥ 3 have an increased risk of opioid-related adverse events (specifically oxygen desaturation) similar to children with OSA quantified by PSG

Snoring, Trouble Breathing, Un-Refreshed?

- "While sleeping, does your child...
- 1) ... snore more than half the time?
 - 2) ... snore loudly?
 - 3) ... having trouble breathing, or struggle to breathe?
 - 4) Have you ever seen your child stop breathing in the night?
 - 5) Does your child wake up feeling unrefreshed in the morning?"



Post-adenotonsillectomy

Brown et al. (2006) *Anesthesiology*: Children with an SpO2 nadir <85% required almost exactly half the dose of morphine than the group without significant O2 desaturations on preoperative PSG

Intermittent hypoxia increases activation of opioid receptors, thus decreasing opioid requirements

Opioids have been cautiously recommended

Some centers moving to opioid-free anesthesia



Opioids and pediatric OSA

Newer studies are challenging convention about OSA and increased sensitivity to opioids

2021 prospective trial

- 2-8 years old
- 1 mcg/kg fentanyl: 10 minutes later found no difference in RR, MV, TV between control and OSA patients (Adler et al. *Pediatric Anesthesia* 2021;31:977-984)

2024 prospective trial

- Adults with OSA, untreated OSA, and treated OSA
- Stepped-dose remifentanyl infusions: no difference in miosis, ventilatory rate, etCO₂, sedation, thermal analgesia (Montana et al. *Br J of Anesth* 2024; 132(1):145-153.

Post-adenotonsillectomy

- ▶ Expediting same day discharge without compromising patient safety
- ▶ Adequate control of postoperative pain
- ▶ Patient return to normal functions (i.e., oral drinking)
- ▶ No significant risk of major complications (e.g., hemorrhage, cardiovascular instability)
- ▶ Postop pain and PONV are the most frequently cited causes of prolonged recovery

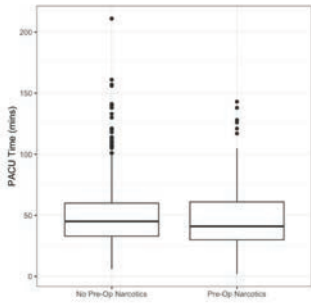


STUDY	CHARACTERISTICS
# Participants	994
Ages	2-20 years old
Date Range	Nov 2020 – Nov 2022
Procedure	Adenotonsillectomy
Location	Single Institution, Multi-center: CHCO Main Campus, North Campus & South Campus
Study Type	Retrospective Observational



STATISTICALLY SIGNIFICANT (p<0.05)	NOT STATISTICALLY SIGNIFICANT
Age (9.2 vs 8.2 yo)	Elevated BMI ≥ 30
↓ in Rescue Opioid in PACU (0.018 vs 0.029 MME)	Presence of OSA
↑ Total Opioid Administration (0.179 vs 0.163 MME)	Time in PACU
↓ Time in Phase II (69 vs 106 min)	Complication Rate or Unplanned Admissions
↓ Total Time in PACU + Phase II (114 vs 154 min)	
↓ in PACU Pain Score (3.1 vs 4.3)	





67% of patients who received pre-op oxycodone received ZERO additional opioid in PACU
 Patients who did not receive pre-op oxycodone were 2.6x more likely to receive opioid in PACU

Figure 1. Boxplot for the distribution of PACU Times, stratified by Pre-Op Narcotic Use

STUDY RESULTS	SURGICAL BENEFIT
↓ Rescue Opioid Used; ↓ Time in PACU + Phase II	↓ Hospital costs (?); ↑ Surgical block time (?)
No Δ Complications	Excellent safety profile
↓ PACU Pain Score	Improved post-op experience/analgesia
↓ Precedex Use	↓ Cost to the Patient & Facility

Limitations:

- ▶ No ketorolac per local ENT preference
- ▶ Retrospective data

Post-adenotonsillectomy

▶ Summary

- ▶ Preoperative oxycodone can possibly decrease PACU stays and decrease rescue opioids in PACU without a significant change in complication rate (postoperative nausea and vomiting, emergence delirium, laryngospasm, or unplanned hospital admission)

3. Pediatric NPO times



In the real world, 2 h clear fasting times usually translates to mean fasting times of 6-13 h



Patient (dis)satisfaction?

Patients (and parents) complain about NPO
 Patients don't complain of thirst from NPO

Consequences of violating NPO

- ▶ Pulmonary aspiration is the commonest cause of death from anesthesia in adults
- ▶ Very few pediatric deaths or long-term sequelae from aspiration
- ▶ The few cases of mortality or significant morbidity from aspiration in pediatric patients have neurological, gastroenterological, or cardiorespiratory comorbidities.

Pediatric NPO times

Changing pediatric NPO for clears from 2h to 1h

- 2017: Australian and New Zealand College of Anaesthetists
- 2018: Swiss Society Pediatric Anesthesia, L'Association Des Anesthésistes-Réanimateurs Pédiatriques d'Expression Française
- 2021: Canadian Anesthesiologists' Society
- 2022 European Society of Anesthesiology and Intensive Care

Local US institutions that have adopted 1h NPO for clears

- Children's Hospital of Philadelphia
- Children's Healthcare of Atlanta,
- Texas Children's Hospital,
- St. Jude Children's Research Hospital

TABLE 1 Pediatric fasting guidelines of various Anesthesia Societies. Zhang et al. *Pediatric Anesthesia* 33 (2023):1012-1019

Institution	Clear fluids	Breast milk	Nonhuman milk including formula	Solids	Chewing gum	Year updated
ANZCA¹⁹						
Children <6 month	1h	3h	4h	-	Nil formal (discard for aspiration risk)	2017
Children >6 month	1h (max 3mL/kg/h)	4h	4h	6h		
APAGBI (no age differentiation)^{19,25}	1h	4h	6h	6h	2h	2018
ESAIC¹⁸						
Infants	1h	3h	4h	-	-	2022
General	1h	-	-	4h (light breakfast or nonclear fluid) 6h solids	Nil formal (discard prior to induction)	
ASA (no age differentiation)^{20,21}	2h	4h	6h	6h (light meal), Consider further fasting for fried/fatty foods or meat	Nil for pediatrics	2023
CAS (no age differential)¹⁸	1h	4h	6h	6h (light meal) 8h (large solids, especially protein or fatty foods)	Nil	2021

Abbreviations: ANZCA, Australian and New Zealand College of Anaesthetists; APAGBI, Association of Paediatric Anaesthetists of Great Britain and Ireland; ASA, American Society of Anesthesiologists; CAS, Canadian Anesthesiologists' Society; ESAIC, European Society of Anaesthesiology and Intensive Care.

2023 Update to the ASA Practice Guidelines

- ▶ Clear liquids 2 hours
- ▶ Favors simple or complex carbohydrate-containing clear liquids
- ▶ No delays for chewing gum for adults
- ▶ **Best Practice Statement**
 - ▶ *To avoid prolonged fasting in children, efforts should be made to allow clear liquids in children at low risk of aspiration as close to 2h before procedures as possible. In children with shorter clear liquid fasting duration, exercise clinical judgment.*
- ▶ **Recommendation**
 - ▶ *There is insufficient evidence concerning benefits and harms to recommend pediatric patients drink clear liquids until 1h versus 2h before procedures with general anesthesia, regional anesthesia, or procedural sedation (no recommendation.)*



Gastric emptying is variable in pediatrics

- ▶ Normal healthy individuals can have gastric content >0.8 ml/kg up to 1.5 ml/kg (2% of patients with more than 2h fasting can still have >1.5 ml/kg of residual gastric volume)
- ▶ Gastric US in healthy children (36-66 mo): mean gastric emptying time 236 min after a light breakfast
- ▶ MRI study in children 6-12 yo: $t_{1/2}$ of clear fluids 23.6 min (17.9-47.8)
- ▶ MRI study in children 8-12 yo: gastric volume returns to baseline in 1h after 3 ml/kg but not 7 ml/kg
- ▶ April 2023 A&A: prospective RCT healthy children 3ml/kg AJ 1h vs 2h prior to gastric ultrasound (all fasted at least 6h for solid food) had higher gastric volumes (0.61 vs 0.32 ml/kg) but neither group had aspiration events.



Consequences of prolonged fasting

- Discomfort, irritability
- Hypoglycemia in infants
- Ketoacidosis/metabolic acidosis: <36 mo who fasted >2h from 6-4-2 guidelines had increased ketone bodies and lowered base excess
- Hemodynamic instability: <36 mo increased incidence of MAP <40mmHg on induction with prolonged fasting
- Concern for insulin resistance (in adult cardiac literature, associated with increased risk of death, cardiac failure, stroke, dialysis, infection)

Arguments against a 1h fast

- Unclear psychological benefit of extra hour of clears
- Variability in pediatric gastric emptying, especially when given carbohydrate drinks of unspecified caloric load
- Decreased fast time does increase aspiration rate
- No clear dose-response effect of fasting time on intraoperative hypotension
- *Prolonged* fasting could possibly cause metabolic/inflammatory changes but hypoglycemia rates drop when given carbohydrate fluids prior to 2.5 h fast

Pediatric NPO times

- ▶ **Summary**
 - ▶ Decreasing pediatric NPO times can improve patient and parent experience with little risk for long-term sequelae in healthy children
 - ▶ Encouraging clear fluids up to 2h prior to surgery can minimize negative consequences of prolonged fasting
 - ▶ Many international societies have adopted 1h NPO times for clear fluids



Pediatric NPO times

- ▶ Exceptions to consider:
 - ▶ Children with facial or limb injuries can have gastric volumes >0.4 ml/kg even after fasting for 8 hours
 - ▶ Gastric emptying of preterm infants may be delayed as compared to term infants



So we all do Ambulatory Surgery, but what makes an ASC different...



Things They Didn't Teach You in Medical School: Learning from the Burger Pros
February 5, 2019/in News. <https://g1surgery.com/2019/02/healthcare-model-for-surgeons-in-n-out-standard/>



subversivecrossstitch.com



Private Payer Savings

Shifting Common Procedures to ASCs can save Patients an average of \$684/procedure

- Reduces spending by 59%

Performing Joint Replacements at ASC

- Potential \$2 BILLION annually if routine hip and knee replacements were done in ASCs

Commercial Insurance Cost Savings In ASC

- Estimated \$37.8 BILLION savings annually



<https://www.ascassociation.org/asca/about-ascs/savings#:~:text=Privately%20insured%20individuals%20and%20employers,placements%20were%20performed%20in%20ASCs>

Ambulatory Surgery Centers (ASCs)

Must be licensed by CMS if they are taking care of Medicaid or Medicare patients

Patients must be expected to stay 23 hours or less. Unanticipated longer admission MUST be rare*

American Recovery and Reinvestment Act (Recovery Act) appropriated \$50 million to the Department of Health and Human Services (HHS) with \$10 million devoted to the state level to increase state-level regulation





- The ASC must comply with State licensure requirements
- The ASC must have a governing body that assumes full legal responsibility for determining, implementing, and monitoring policies governing the ASC's day-to-day operation. The governing body has oversight and accountability for the accreditation assessment and performance improvement program, ensures that facility policies and programs are administered so as to provide quality health care in a safe environment, and develops and maintains a disaster preparedness plan
- Surgical procedures must be performed in a safe manner by qualified practitioners who have been granted clinical privileges by the governing body of the ASC
- The ASC must develop, implement, and maintain an ongoing, data-driven quality assessment and performance improvement (QAPI) program
- The ASC must have a safe and sanitary environment, properly constructed, equipped, and maintained to protect the health and safety of patients.
- The medical staff of the ASC must be accountable to the governing body
- The nursing services of the ASC must be directed and staffed to assure that the nursing needs of all patients are met.
- The ASC must maintain complete, comprehensive, and accurate medical records to ensure adequate patient care.
- The ASC must provide drugs and biologicals in a safe and effective manner in accordance with accepted professional practice, and under the direct supervision of an individual designated responsible for pharmaceutical services
- Must inform the patient or the patient's representative of hospital accreditation, patient's rights and must protect and promote the exercise of these rights set forth in this section.
- The ASC must maintain an infection control program that complies with applicable laws, regulations, and standards for the control and prevention of infections and communicable diseases.
- The ASC must ensure each patient has the appropriate government accreditation surgical assessments completed and that all elements of the accreditation

The Ambulatory Surgical Center Quality Reporting (ASCQR) Program

- Facility 7-Day risk-standardized hospital visit rate after:
 - Colonoscopy
 - Orthopedic ASC procedures
 - Urology ASC procedures
- Appropriate Follow-up intervals for normal colonoscopy in ave. risk patients
- Cataracts: improvement in patient's vision function w/in 90 days *Voluntary*
- Normothermia
- Unplanned anterior Vitrectomy
- ASCs that do not meet reporting requirements, including allowing the data to be publicly available, may incur a 2.0 percentage point reduction to any payment update provided under the revised ASC payment system for that year

<https://qualitynet.cms.gov/ascqr/measures>

The Joint Commission

(Name change in 2007)

Mission

To continuously improve health care for the public, in collaboration with other stakeholders, by evaluating health care organizations and inspiring them to excel in providing safe and effective care of the highest quality and value..



Facts

- Founded in 1951
- Independent, not-for-profit
- Largest standards-setting and accrediting body in health care
- To earn and maintain The Gold Seal of Approval from TJC, the organization must undergo an on-site survey at least every 3 years
- Around 1000 people in its surveyor force
- Approximately 80% of the nation's hospitals are accredited by the Joint Commission
- Approximately 85% of hospitals that are accredited do so through the Joint Commission
- Annual subscription billing model

<https://www.jointcommission.org/resources/news-and-multimedia/fact-sheets/facts-about-hospital-accreditation/#:~:text=The%20Joint%20Commission%20uses%20an,and%20covers%20survey%20related%20costs.>

Accreditation

- Demonstrates a commitment to continuous improvement in patient care
- On-site survey to assess organization's compliance with TJC standards
- 10,000 Accreditation-related surveys each year
- 4,000+ certification reviews conducted each year
- Conditions of Participation
 - Developed by CMS
 - OSHA - focuses on employee health and safety
- TJC focuses on patient safety and standards. Patient rights and education, infection control, medication management and preventing medical errors

Survey Experience

- Patient focused
- Data driven
- Evaluation of actual care process
- Intended to be a learning experience
- Best practice guidance
- Most have a positive outcome
- After completion of survey - written report with areas of improvement

- ▶ Aims to avoid medical errors and non-compliance by evaluating factors such as
 - ▶ Multi-tasking
 - ▶ Interruptions
 - ▶ Worker fatigue
 - ▶ Communication issues
- ▶ Unannounced visits to sites between 18-36 months after previous survey
 - ▶ Typically announce in the morning and arrive by the same afternoon
- ▶ Tracer methodology
 - ▶ Individual
 - ▶ System
 - ▶ Program Specific



Wadhwa R, Boehning AP. The Joint Commission. 2023 Mar 16. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. PMID: 35409235.

Why pay The Joint Commission?

- ▶ Certification necessary for hospitals to obtain liability insurance if taking care of Medicaid or Medicare insured patients
- ▶ Standards based on reported adverse events by the facility (harm or near-miss occurrences)
- ▶ Quality measures based on "health-related population-focused commonalities"
- ▶ Cost approximately \$46,000 per year



Block Time



Block time

"Each 1% of room utilization equates to \$100,000 of net revenue," says Steve Hess, chief information officer for UHealth in Colorado, which recently implemented an app to facilitate block scheduling. "We were able to increase overall block utilization by 4%." That increase resulted in an additional \$15 million in revenue annually. UHealth has 10 hospitals and more than 80 ORs.

Review utilization of assigned block time quarterly

Make changes accordingly

<https://www.ormanager.com/block-schedule-best-practices-calculate-allocate-regulate/>

Tiered block utilization

Henderson Hospital in Henderson, Nevada, uses a tiered system for block utilization. Block time utilization percentage has to be maintained for 3 months to qualify for a tier change.

Tier	Block time utilization	When block needs to be released before scheduled start
I	80%	24 hours
II	70%-79%	72 hours
III	Below 70%	7 days

- ❖ Blocks must be released 30 days before planned vacations.
- ❖ Creativity = increased volume. Utilization increased by 28% in 1 year

Psychological Safety -

"An environment that encourages, recognizes and rewards individuals for their contributions and ideas by making individuals feel safe when taking interpersonal risks."
-Gartner Human Resource Glossary

- Team PS Originally defined in 1990

- 2015 report on malpractice claims in the US [2] implicated communication failure in 30% of all malpractice claims and 37% of high severity injury cases).

- Improves the health of the workforce by promoting job satisfaction & well-being

WHAT'S THE DIFF? Trust and Psychological Safety

Psychological safety is the belief that your environment is safe for interpersonal risk-taking. It's similar, but slightly different from, trust.

TRUST

Will **YOU** give others the benefit of the doubt when you take a risk?

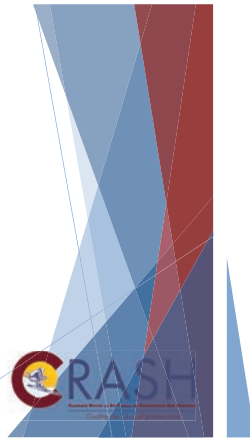
"Bob is probably going to freak out if I disagree with him."

PSYCHOLOGICAL SAFETY

Will **OTHERS** give you the benefit of the doubt when you take a risk?

"My team expects me to speak up. It's how we do things."

Sources: Edmondson, A. C. (2018). Managing the risk of learning: Psychological safety in work teams. Boston, MA: Division of Research, Harvard Business School and Professor, M. L. A. (2018). Trust and Psychological Safety. In: A. C. Edmondson, A. C. (Ed.), *Psychological safety: A multi-level analysis and evidence-based framework for effective learning*. (pp. 13-30). SCIENCE & WORK



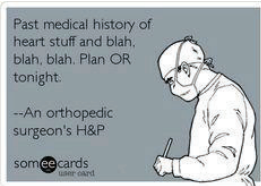
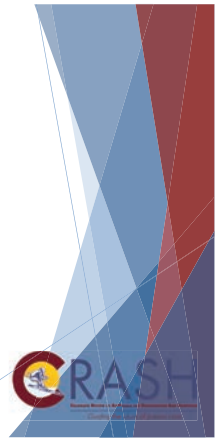
This is Psychological Safety

- Freedom to share thoughts.
- Expressing concerns.
- Allocating tasks and coaching when needed.
- A space where people feel a sense of ease and support.
- Taking measured risks after considering possible scenarios.
- Everything is considered.

This is NOT Psychological Safety

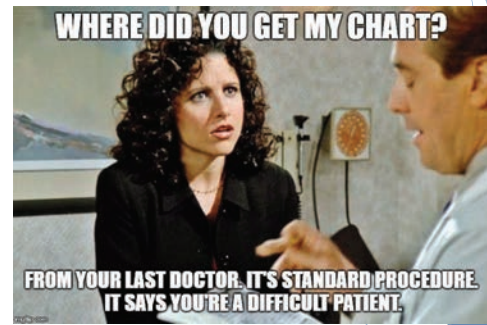
- Saying anything you want.
- Letting your emotions go as you please.
- Leadership taking a Laissez-faire approach.
- A space free of any inner discomfort.
- Taking risks and hoping for the best.
- Everything is tolerated.

humaninterest



Humble enough to know I'm replaceable.
Cocky enough to know it's a downgrade.

Dealing with a challenging patient

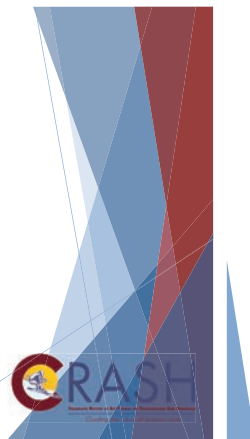


Dealing with a challenging surgeon

A Surgeon



A Plastic Surgeon



Take Home Points...

