

PROSA2022



Training pediatric ED staff in procedural sedation: achievements and lessons learnt



Outline

BACKGROUND

A Common Challenge

PSA TRAINING

Ours and other models
Just one piece of the puzzle

LESSONS LEARNED

From training to practice change

BACKGROUND



EMERGENCY MEDICINE

Formally recognized as a specialty in 2009
– start of first residency program



PEDIATRIC EM

Not yet formally recognized subspecialty
Practiced in some tertiary care centres
Variability in training & practice

Sforzi et al. *Italian Journal of Pediatrics* (2020) 46:57
<https://doi.org/10.1186/s13052-020-0812-x>


Italian Journal of Pediatrics

RESEARCH

Open Access

The development of a Consensus Conference on Pediatric Procedural Sedation in the Emergency Department in Italy: from here where to?



Idanna Sforzi^{1*} , Silvia Bressan², Claudia Saffirio¹, Salvatore De Masi³, Leonardo Bussolin¹, Liviana Da Dalt², Fabio De Iaco⁴, Itai Shavit⁵, Baruch Krauss⁶, Egidio Barbi^{7,8} and on behalf of the Procedural Sedation Analgesia Consensus working group

BACKGROUND



Clinical questions

Q1 Pre-assessment and fasting

Q2 Pharmacological Treatment

- Midazolam

- Fentanyl

- Nitrous Oxide

- Ketamine

- Propofol

- Dexmedetomidine

Q3 Monitoring

Q4 Check List

Q5 Training



17 recommendations

Q6 Psychological strategies and non-pharmacologic techniques

Q7 Emergency Medicine Physicians

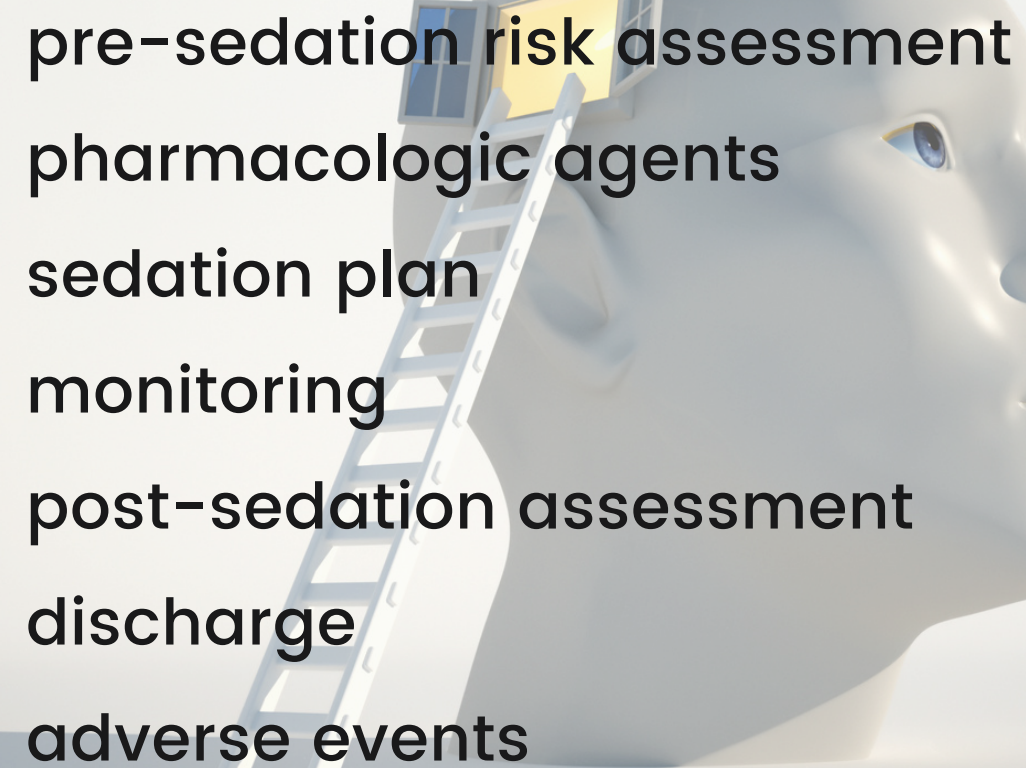
Q8 Impact on Organization and Hospital Admissions

Pediatric PSA Consensus

TRAINING COURSE RECOMMENDATIONS



Knowledge & practice

An illustration of a grey human head in profile, facing right. A white ladder is leaning against the head, with its top reaching a yellow window opening on the forehead. The text for 'Knowledge & practice' is listed to the left of the head.

pre-sedation risk assessment
pharmacologic agents
sedation plan
monitoring
post-sedation assessment
discharge
adverse events

- recognition & management

Technical skills

airway opening
BMV
LMA use
CPR



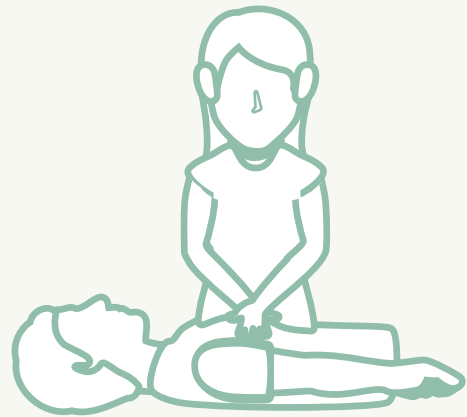
Non technical skills

A photograph showing multiple hands of different skin tones stacked together in a circular pattern, symbolizing teamwork and collaboration.

Team management
Crisis resource management
Institution plans for codes

Pediatric PSA Consensus

TRAINING RECOMMENDATIONS



PALS certification



Two-tiered



Entirely dedicated
PSA provider



Nurses training

Autonomy NO2 50% administration



Retraining
Tailored to individual



Proctoring
Expert ED providers, ICU,
Anesthesiologists

PSA Training recommendations



NO universally-accepted competency-based
formal training recommendations

Sedation-related guidelines NOT consistent
between specialties, societies, and countries

Mason, BJA 2019



AAP GL
2016

ACEP GL
2018

Krauss & Green, Ped Anest 2008

Babl et al, EMJ 2010

Leroy et al, Int J Ped 2010

Teng et al, Curr Op Anest 2019

Green et al, Ann Em Med 2019

Burger et al, PEC 2022

PSA TRAINING

Our model



Shavit et al, Arch Ped Adolesc 2007

Friedman et al, Eur J Ped 2018

Ben Ari et al, Ped Anesth 2018

1ST PSA SAFETY SIM COURSE

- just after the consensus conference
- model of Israeli course by Itai Shavit
- training of faculty



Building our own course



LECTURES

Introduction to PSA
Pharmacologic agents



INTERACTIVE CASE DISCUSSIONS

Pros/Cons of different PSA choices



WORKSHOPS

Small groups
Interactive practice



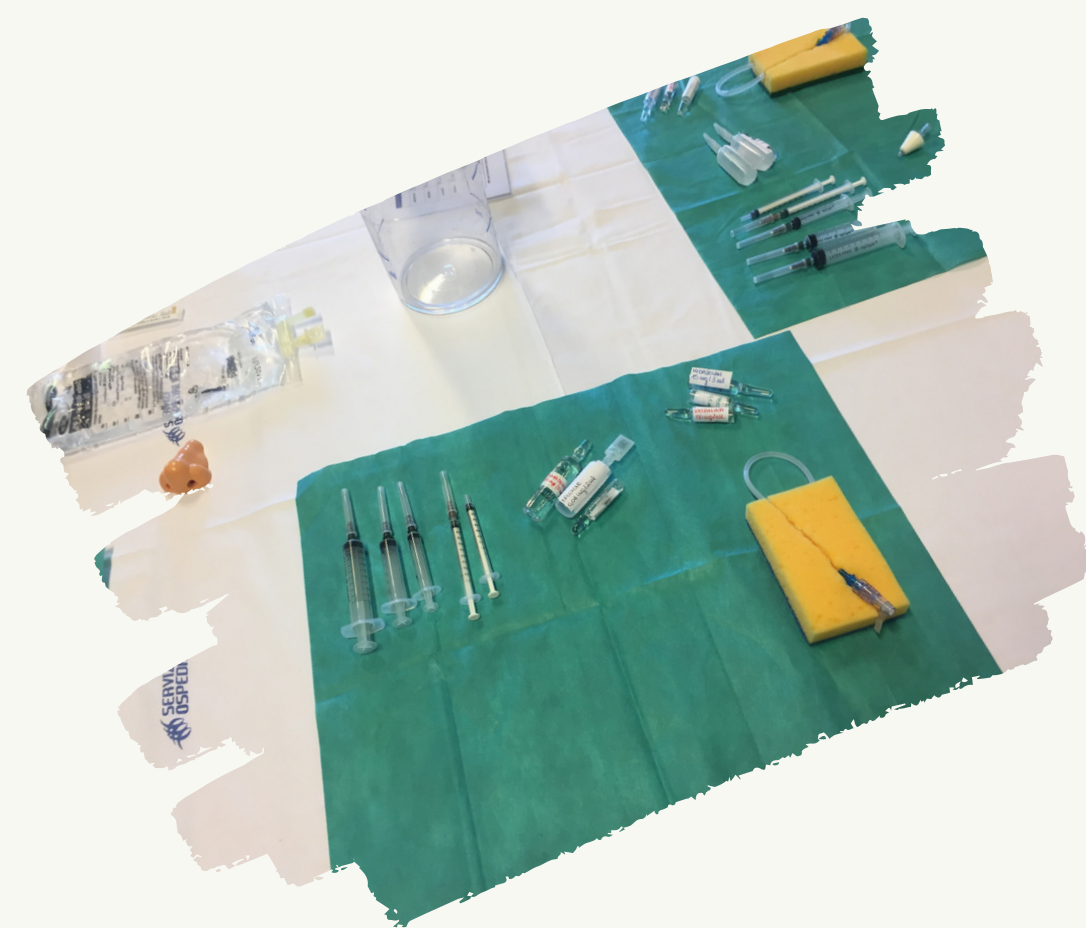
SIMULATIONS

Patient Safety
Management of adverse events
Nitrous administration

Krauss & Green, Ped Anest 2008
Babl et al, Em Med Austr 2006

Our PSA training course

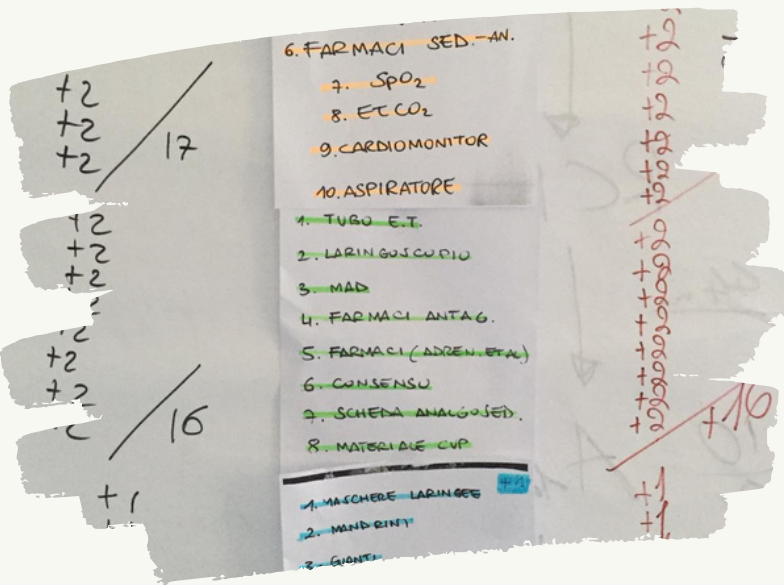
WORKSHOPS



Preparation of medications



Preparation of PSA setting



Our PSA training course

WORKSHOPS



Pre-sedation
risk assessment

Monitoring during
sedation



Communication &
Family centred care

Our PSA training course

WORKSHOPS RESOURCES



Communication &
Family centred care

USEFUL RESOURCES

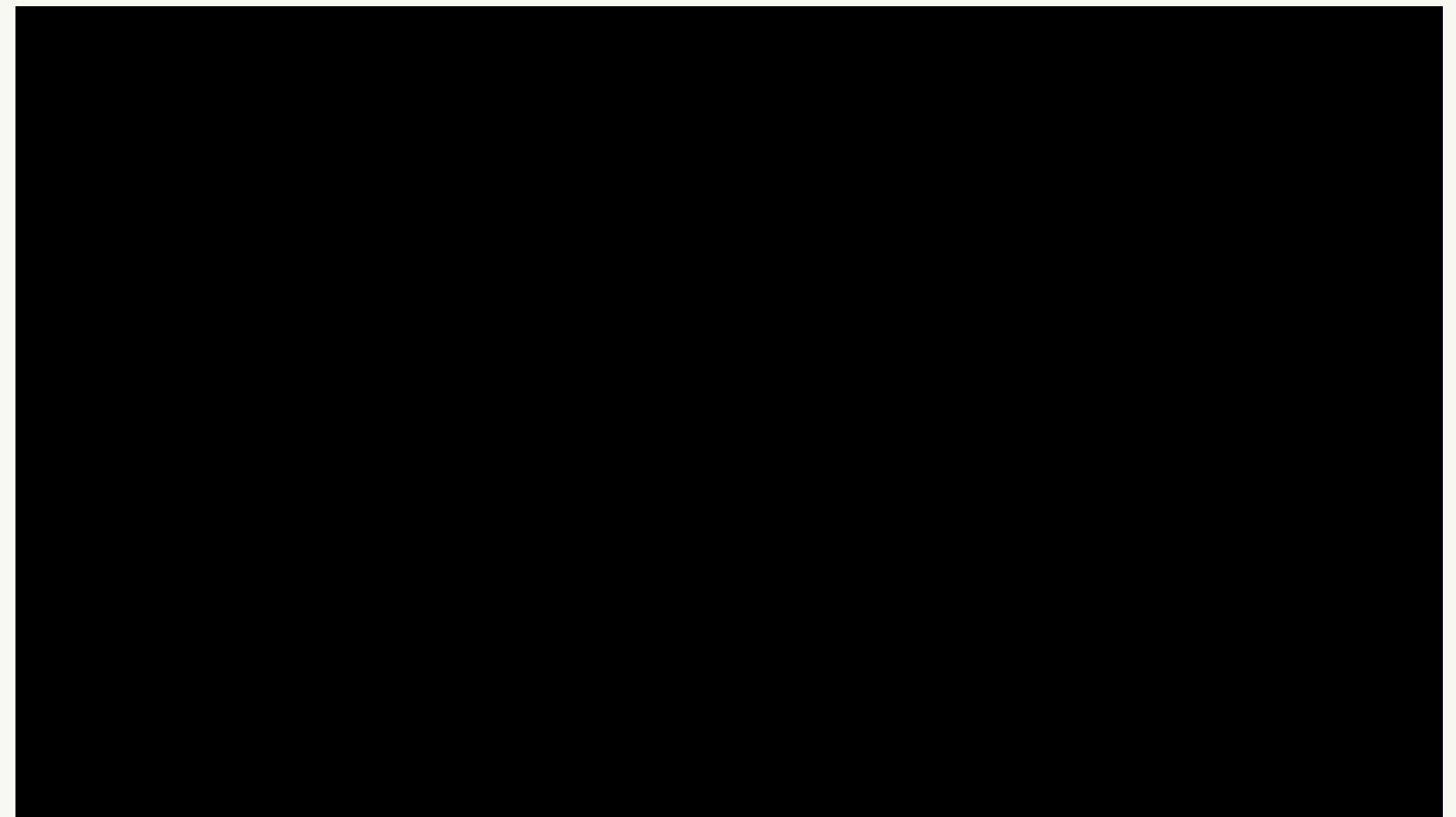
Leroy et al, Curr Opin Anaesth 2016

Krauss et al, NEJM 2016

Krauss et al, Ann Em Med 2019

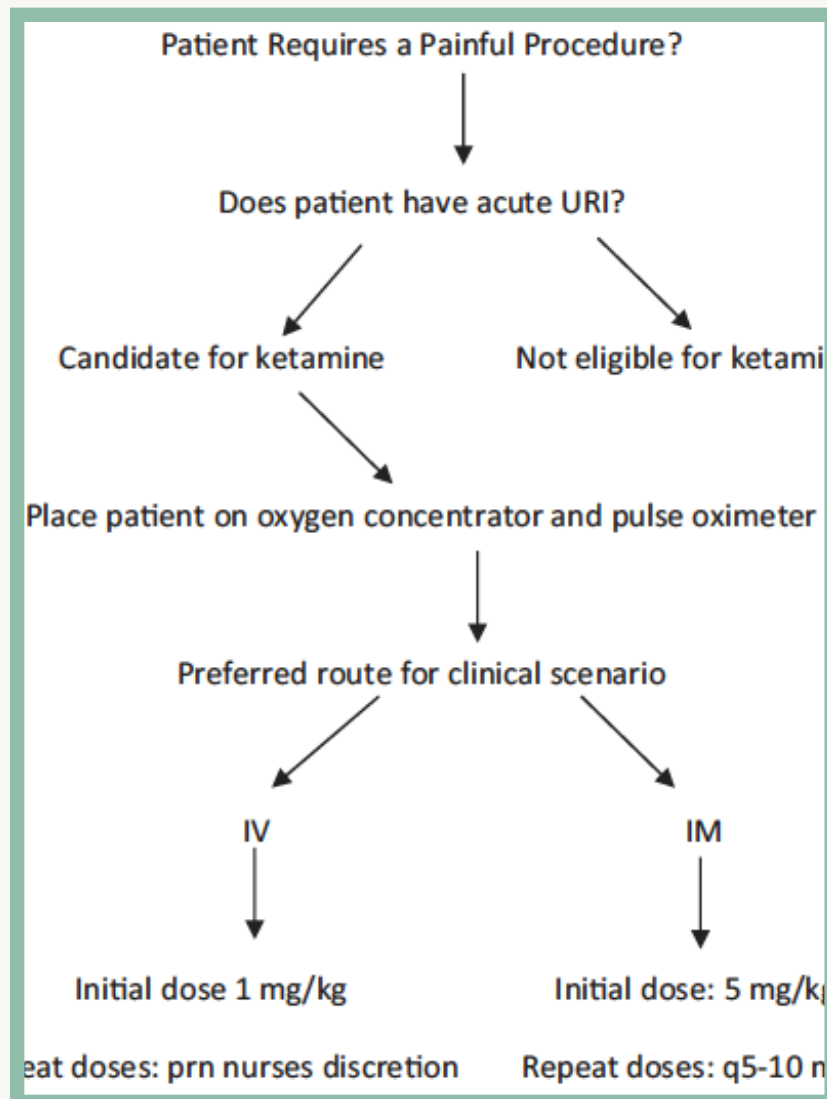
Our PSA training course

A GLIMPSE FROM OUR EXPERIENCE

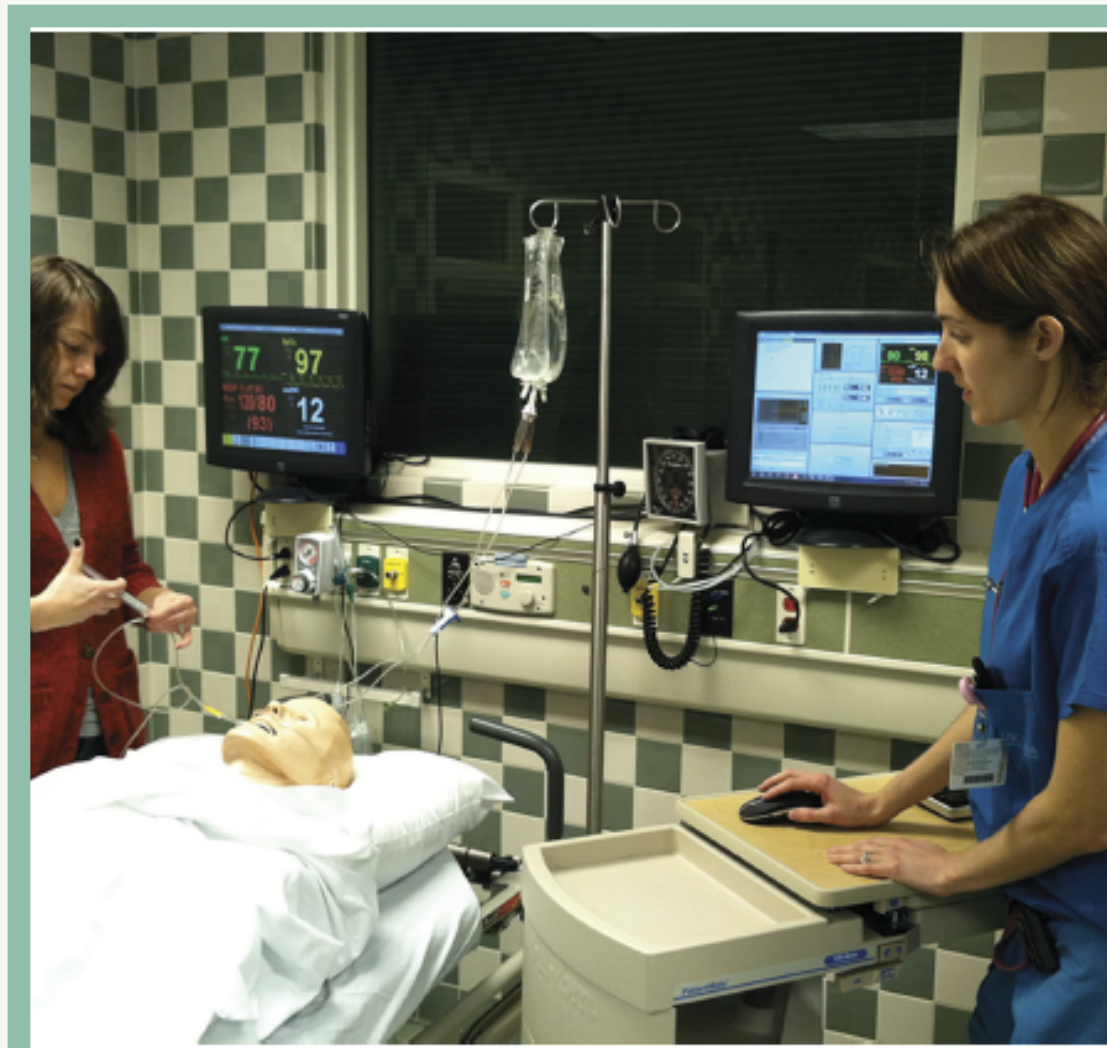


TRAINING COURSES

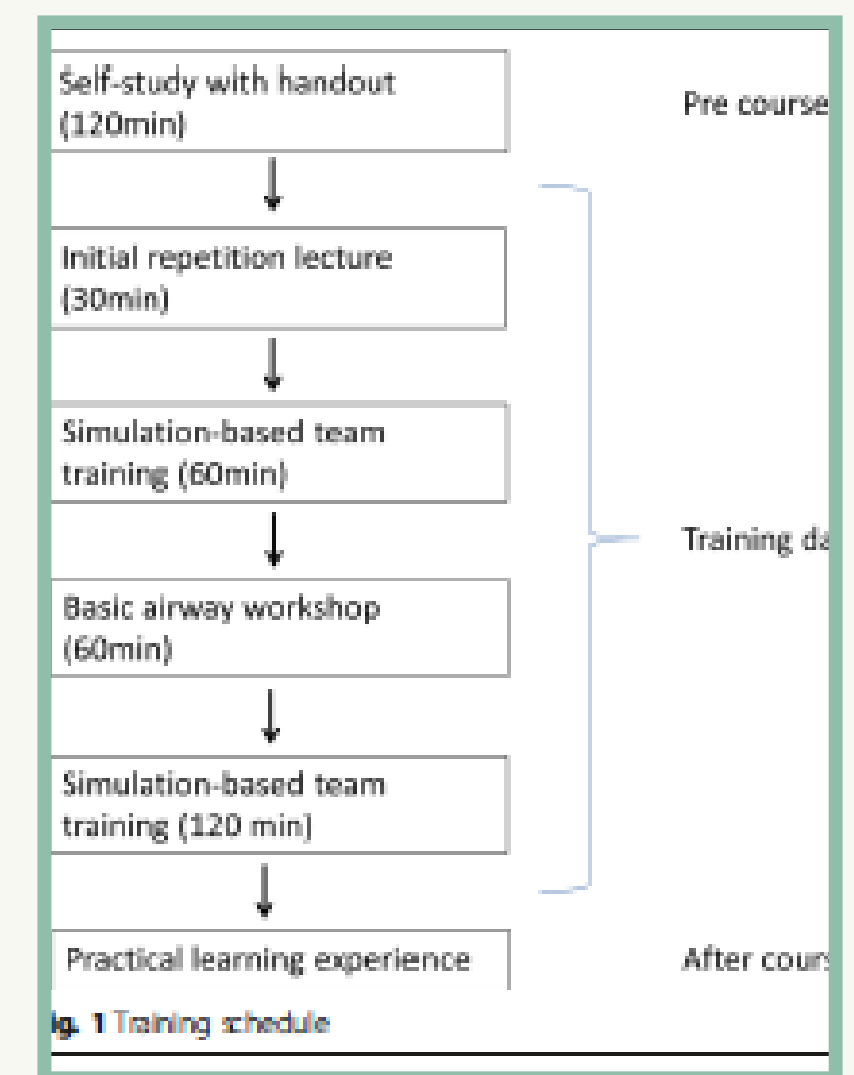
OTHER EXAMPLES



Bisanzo et al. Nurse administered Ketamine Sedation in an ED in Rural Uganda – Ann Em Med 2012



Tobin et al. An Approach to Moderate Sedation Simulation Training- Sim in Healthcare 2013



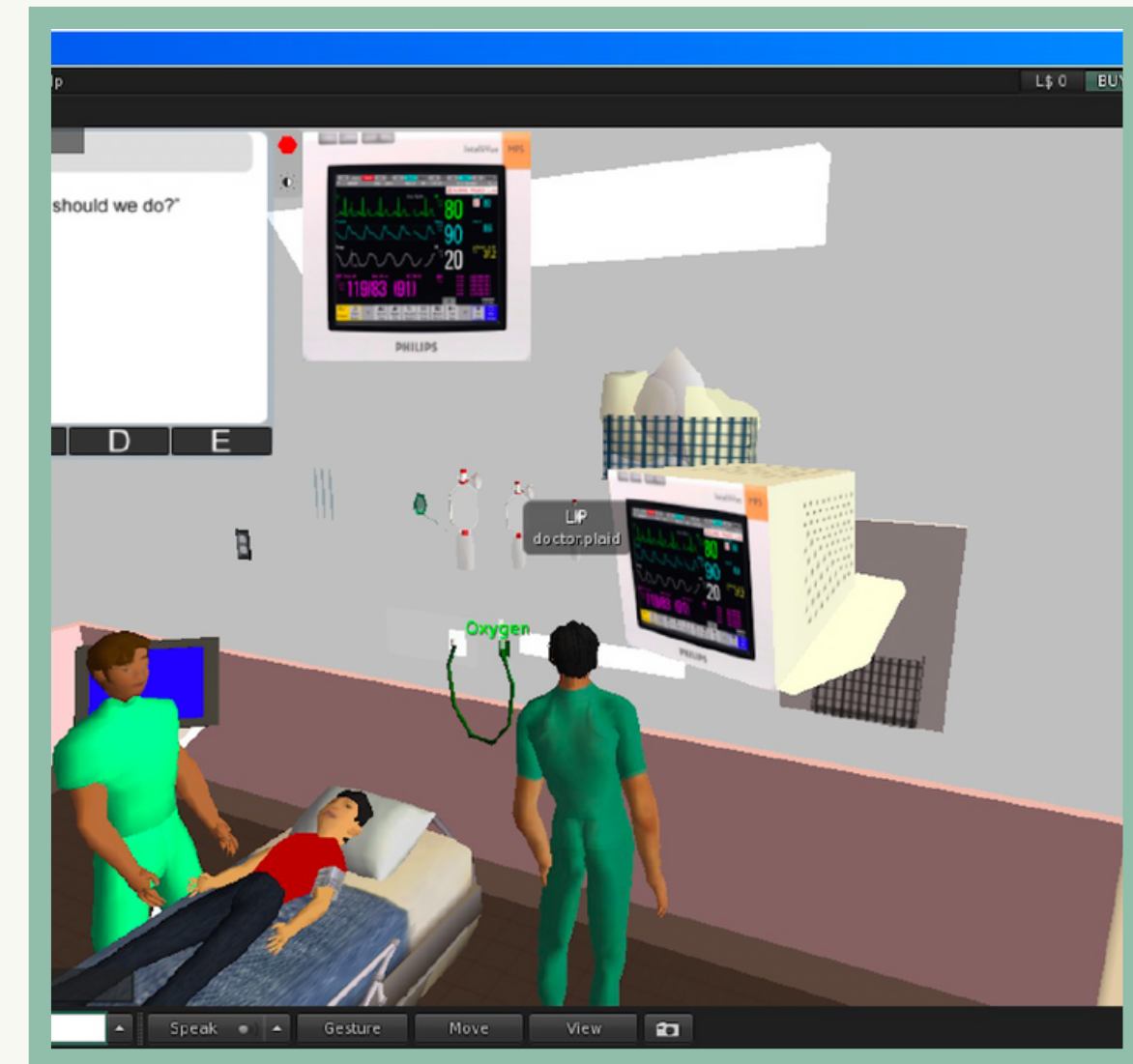
Sauter et al. Interprofessional & Interdisciplinary sim-based training to safe sedation procedures in the ED – Sc J Trauma, Res and EM 2016

TRAINING COURSES

OTHER EXAMPLES



Nori et al. A collaborative educational intervention on PSA across the Pacific – Acute Med & Surg 2019



Zaveri et al. Virtual reality for Pediatric Sedation: An RCT using Simulation – Cureus 2016

PSA TRAINING

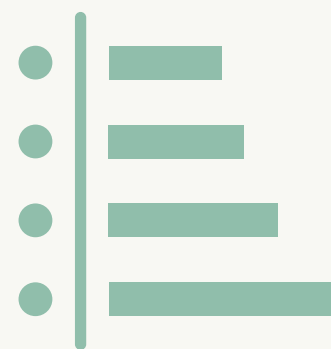
CONSENSUS GUIDELINES FOR PEM FELLOWS



Pediatric Emergency Medicine Fellowship Procedural Sedation Training *Consensus Educational Guidelines*

PEC 2022

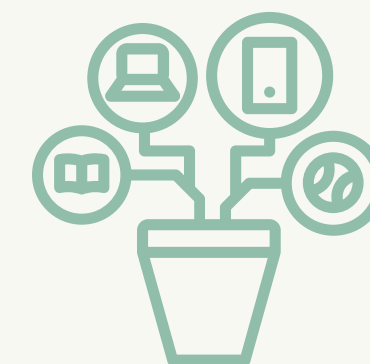
Rebecca K. Burger, MD, Taryn R. Taylor, MD, MEd,* Corrie E. Chumpitazi, MD, MS,†
Lauren C. Robinson, MD,‡ Morgan J. Sims, MD,§ Emine M. Tunc, MD,|| Amanda E. Mulcrone, MD,†
Derya Caglar, MD,|| Carmen D. Sulton, MD,* Kim Little-Wienert, MD, MEd,† Eileen J. Klein, MD, MPH,||
M. Olivia Titus, MD,‡ and Benjamin F. Jackson, MD‡*



Core Topics



Evaluation methodology



Resources

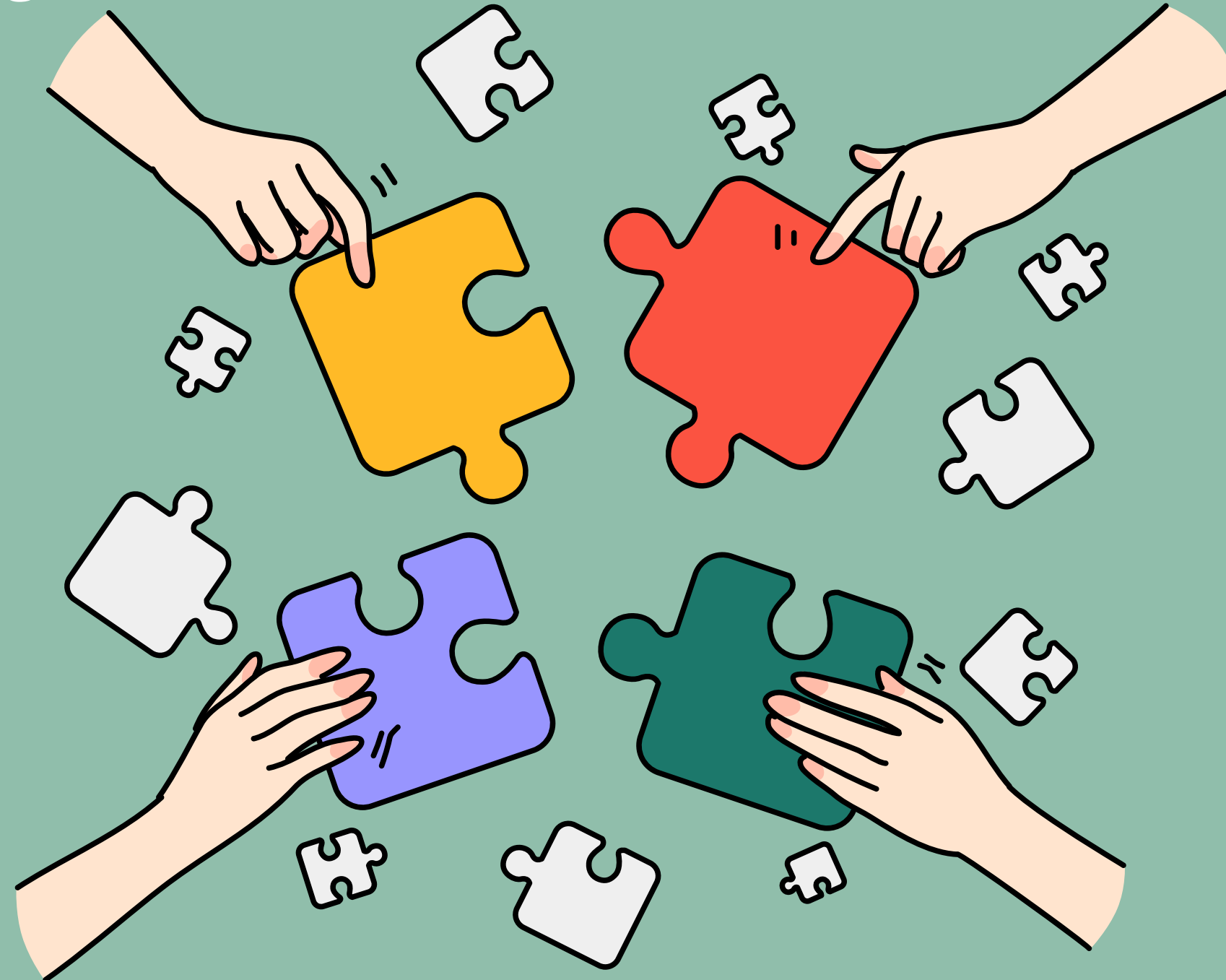
to create/modify a PSA curriculum for PEM fellowship programs

PSA TRAINING

Just one piece of the puzzle

Awareness
Drive to change

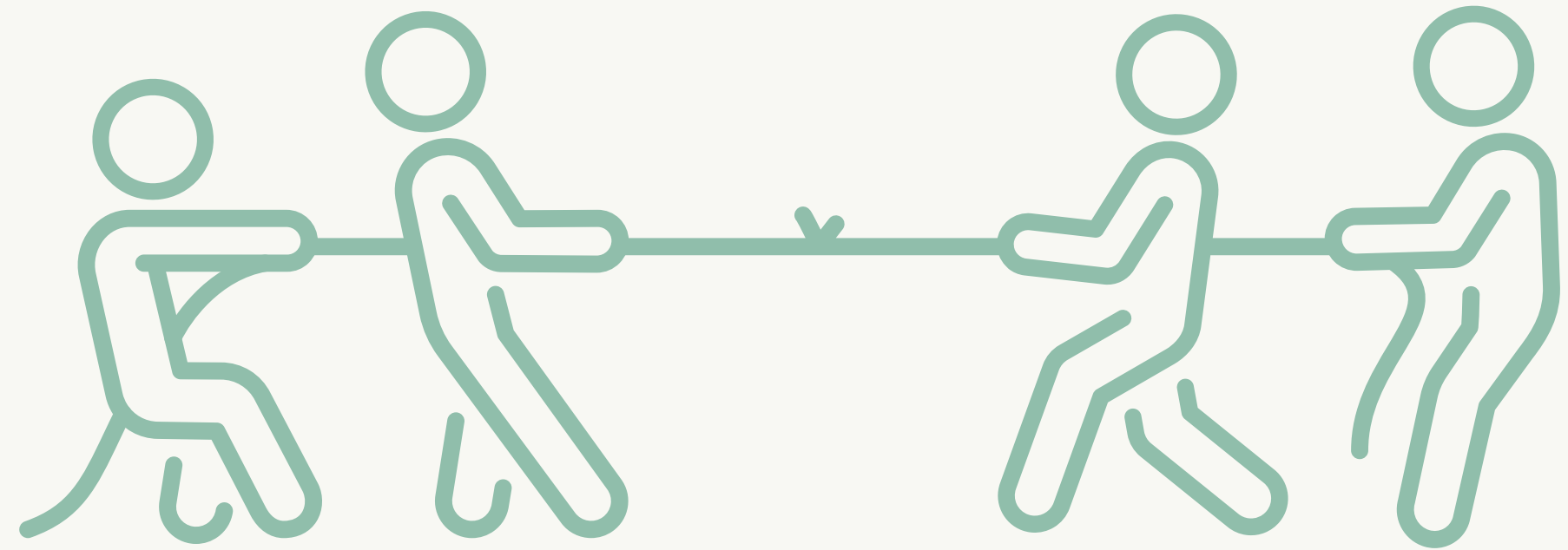
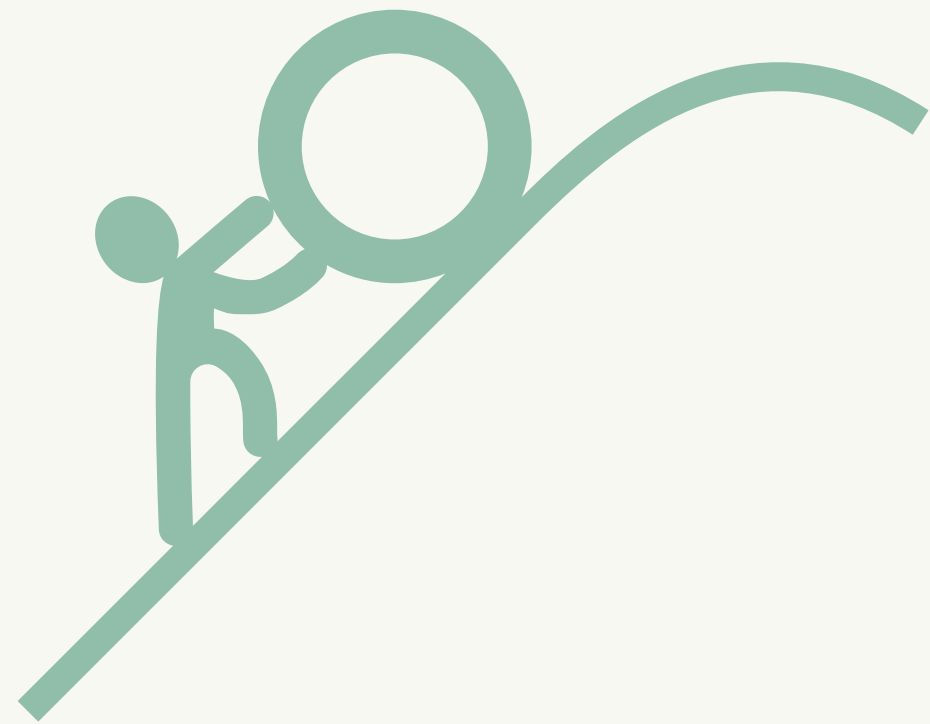
Training



Institutional policies,
protocols, procedures

Practice review
Quality assurance

OUR DEPARTMENT PSA PUZZLE



OUR ACHIEVEMENTS

Able to change practice

(despite intercurrent COVID related challenges)

Better patient & family centred approach

Non-pharmacologic approach

Triage nurse initiated analgesia

LAT gel for lacerations

Engagement of proceduralists from other specialties

Institutional policies, protocols, procedures and tools

Training in place and in development

PSA approaches

- IN FNT, MDZ, DEX
- IV MDZ, Keta, DEX
- IM Keta, DEX



OPEN CHALLENGES



Nitrous



Ortho Trauma

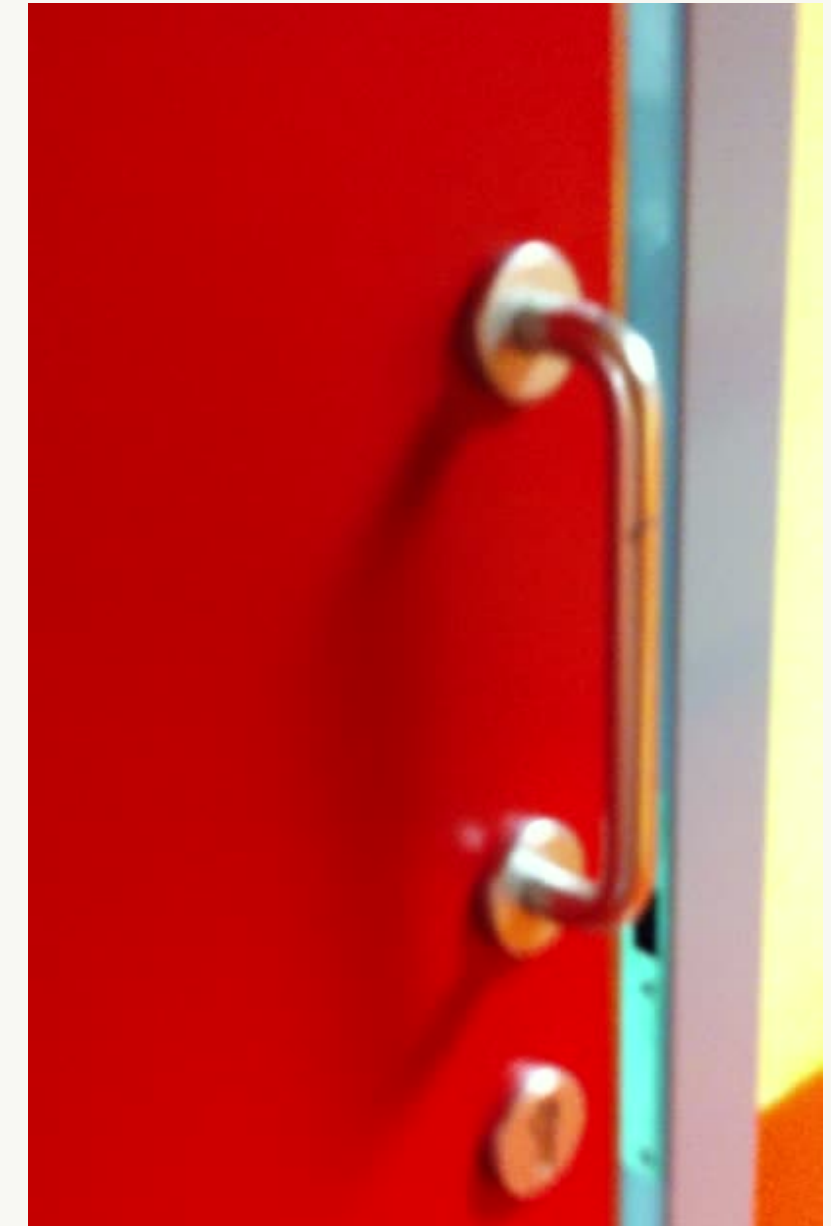


Community Hospitals

Long term sustainability & high practice standards

Community Hospitals

Community Hospitals see
the majority of children
"Brutacaine" is still too often routine!



Community Hospitals



UEL UNIVERSITY OF EDUCATION
LONDON

Tutti i master e corsi Tipologie Categorie Open Week

MASTER II LIVELLO

PEDS

Pediatria specialistica ad indirizzi

Inizio attività: 14/11/2022

Durata: Annuale

Sede: Padova

Lingua di erogazione: Italiano

CFU: 60

Modalità didattica: in presenza

Contributo di iscrizione totale: € 2.672,50

Data chiusura pre-iscrizioni: 07/10/2022

PRE-ISCRIVITI

SDB
DIPARTIMENTO SALUTE
DONNA E BAMBINO

Home > Master e corsi > Master II livello > PEDS - Pediatria specialistica ad indirizzi



Flavia Predieri
Carpi Hospital

Michele di Toma
Foggia Hospital

PSA
passionates

Carla Pizzini
Negrar Hospital



Community Hospitals

Survey on Pediatric PSA practice



Raising awareness

Needs assessment

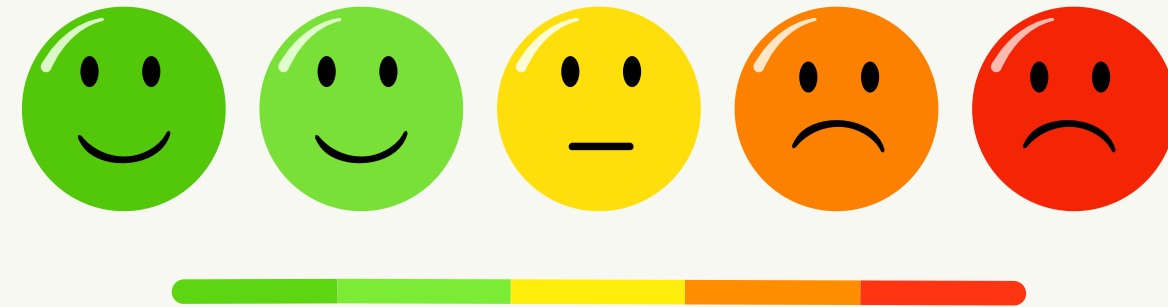


Carpi Hospital
124 respondents (80%)
55% nurses

Foggia Hospital
110 respondents (76%)
34% nurses

Community Hospitals

Survey on Pediatric PSA practice



Relevant to my practice

Carpi 81 %

Foggia 58 %

Improves child experience

Carpi 98 %

Foggia 66 %

Staff satisfaction with local practice

Carpi 44 %

Foggia 57 %

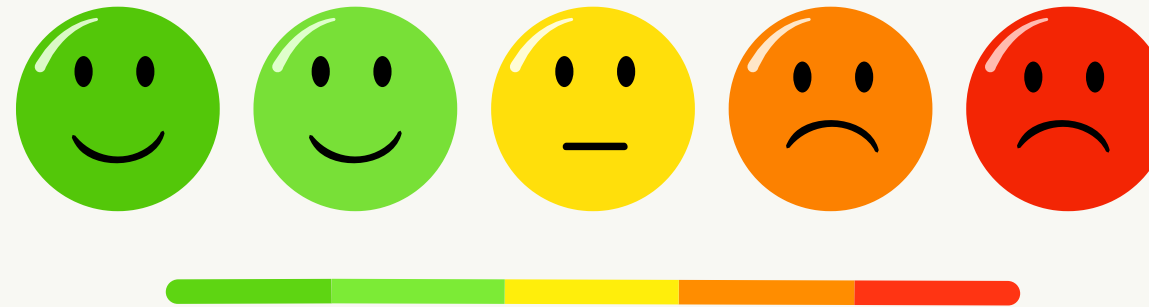
Staff self-reported knowledge on the topic

Carpi 64 %

Foggia 66 %

Community Hospitals

Survey on Pediatric PSA practice



Importance of training

Carpi 90 %

Foggia 62 %

Participation in training courses on
pediatric acute pain management

Carpi 77 %

Foggia 75 %



Participation in training courses
on pediatric PSA

Carpi 90 %

Foggia 90 %

PSA TRAINING

Just one piece of the puzzle

Awareness
Drive to change

Focused
Training



Institutional policies,
protocols, procedures

Practice review
Quality assurance

Training

LESSONS LEARNED

Multimodal training course

SIM based training

Multidisciplinary team

Evaluation methodology

Training

LESSONS LEARNED

Adjustment to local setting & needs

Training course just one piece of training

Training just one piece of the PSA puzzle

*Sharing training experience & advice
within PSA Community*

To drive
change

LESSONS LEARNED

Prepare for a hard journey

Frustration does occur

Celebrate successes

Collaborative effort

Anticipate your allies and foes

Build trust, support hesitant staff

To drive
change

LESSONS LEARNED

Drivers of change

- *Local champions*
- *Nursing staff*
- *Trainees*

Quality assurance - learning system

Reluctance to change is part of our life



*Thank you
for your attention*

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