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SEDATION TRAINING FOR NON-ANAESTHESIOLOGISTS

OUTLINE

- ❖ Why?
- ❖ Who?
- ❖ When?
- ❖ What?
- ❖ How?
- ❖ Some experience
- ❖ Way forward

POTENTIAL ADVERSE OUTCOMES IN PROCEDURAL SEDATION

- ❖ Oversedation & hypoxia
- ❖ Anaphylaxis
- ❖ CVS collapse
- ❖ Seizure
- ❖ Others

	Minimal sedation	Moderate sedation/ analgesia	Deep sedation/ analgesia	General anesthesia
				
Response	Responds normally to verbal commands	Responds purposefully to verbal commands/or light touch	Responds to pain	No response
Airway	Maintained	Maintained	May require support	Requires support
CV support	Not needed	Not needed	May be needed	May be needed



PROCEDURAL OUTCOMES UNDER MODERATE SEDATION ITT ANALYSIS

Factor	Total	Capnography blinded arm	Capnography open arm	P value
Colonoscopy	n=234	n=117	n=117	
Hypoxemia (SpO2 <90%, 10s)	124 (53.0)	63 (53.8)	61 (52.1)	0.79 ^a
Severe hypoxemia (SpO2 <85%, RR<8)	27 (11.5)	21 (17.9)	6 (5.1)	0.002 ^a
UGI endoscopy	n=218	n=109	n=109	
Hypoxemia (SpO2 <90%, 10s)	113 (51.8)	59 (54.1)	54 (49.5)	0.50 ^a
Severe hypoxemia (SpO2 <85%, RR<8)	39 (17.9)	18 (16.5)	21 (19.3)	0.60 ^a

Sedation with standard Meperidine 50mg + midazolam 2mg

PROCEDURAL SEDATION

- ❖ Should be provided by individuals who are trained and with experience
- ❖ High volume
- ❖ Many non-Anaesthesiologists are providers
- ❖ Providers of variable degree of training
- ❖ Considerable variation in sedation practices

VARIABILITY IN SEDATION PRACTICE FOR GI ENDOSCOPY EUROPE

- ❖ Safety considerations
- ❖ Monitoring
- ❖ Staff responsibilities
- ❖ Training requirement
- ❖ Informed consent
- ❖ After-care
- ❖ Awareness of international guidelines

SOME INTERNATIONAL GUIDELINES

- ❖ Am Society of Anesthesiologists
 - ❖ Practice Guideline for Non-Anesthesiologists
- ❖ College of Physicians & Surgeons in Canada
- ❖ Academy of Medical Royal Colleges
- ❖ European Board of Anaesthesiology
- ❖ Australia New Zealand College of Anaesthetists
- ❖ Intercollegiate Advisory Committee for Sedation in Dentistry UK
- ❖ Am College of Emergency Physicians
- ❖ Am Society of GI Endoscopy
- ❖ British Society of Gastroenterology
- ❖ European Society of Gastrointestinal Endoscopy

HONG KONG GUIDELINES

- ❖ HKAM Guideline on Procedural Sedation
- ❖ HKCA Guideline on Guidelines for Safe Sedation for diagnostic and therapeutic procedures
- ❖ HA Recommendations on Procedural Sedation
- ❖ HK Thoracic Society Guidelines on procedural and sedation safety in flexible bronchoscopy and pleuroscopy
- ❖ HK Society of Paediatric Dentistry Guideline on Sedation for Dental Procedure in Paediatric Patients

WHO SHOULD BE TEACHING?

- ❖ Anaesthesiologists?
- ❖ Intensive Care Specialists?
- ❖ Emergency Physicians?
- ❖ Individual Specialty College?
 - Physician, Surgeon, Paediatrician, Radiologist, etc
- ❖ Multispecialty Faculty
 - Collaborative effort

WHEN TO TEACH?

- ❖ Undergraduate
- ❖ Internship (e-learning module)
- ❖ Fellowship training (Resident year)
 - College of Surgeons HK: Core Competence Prog
 - HK College of Paediatricians
- ❖ Post-Fellowship
 - Hospitals, HA, CME/CPD programmes
 - when relevant

DIFFERENT OBJECTIVE OF SEDATION TRAINING

- ❖ To learn basic aspects of sedation process
- ❖ To learn skills to enhance safety aspects of sedation process
- ❖ To achieve competence in admin of sedation (Credentialing process)

WHAT TO TEACH?

- ❖ Systematic review
- ❖ Most essential competence in procedural sedation
 - Risk management & prevention of AE
 - Timely recognition
 - Appropriate management



WHAT TO TEACH?

- ❖ Pre-sedation assessment
- ❖ Patient selection
- ❖ Sedation drugs and techniques
- ❖ Monitoring requirement
- ❖ Post-sedation care
- ❖ Management of adverse events
- ❖ Recommended Institutional Policy & Guideline

HOW TO TEACH?

- ❖ Adult learning modality important
- ❖ Knowledge with lectures (interactive) & problem-based discussion
- ❖ Clinical skills and decision making with simulation component
 - immersive, realism
 - meaningful
 - learn from others

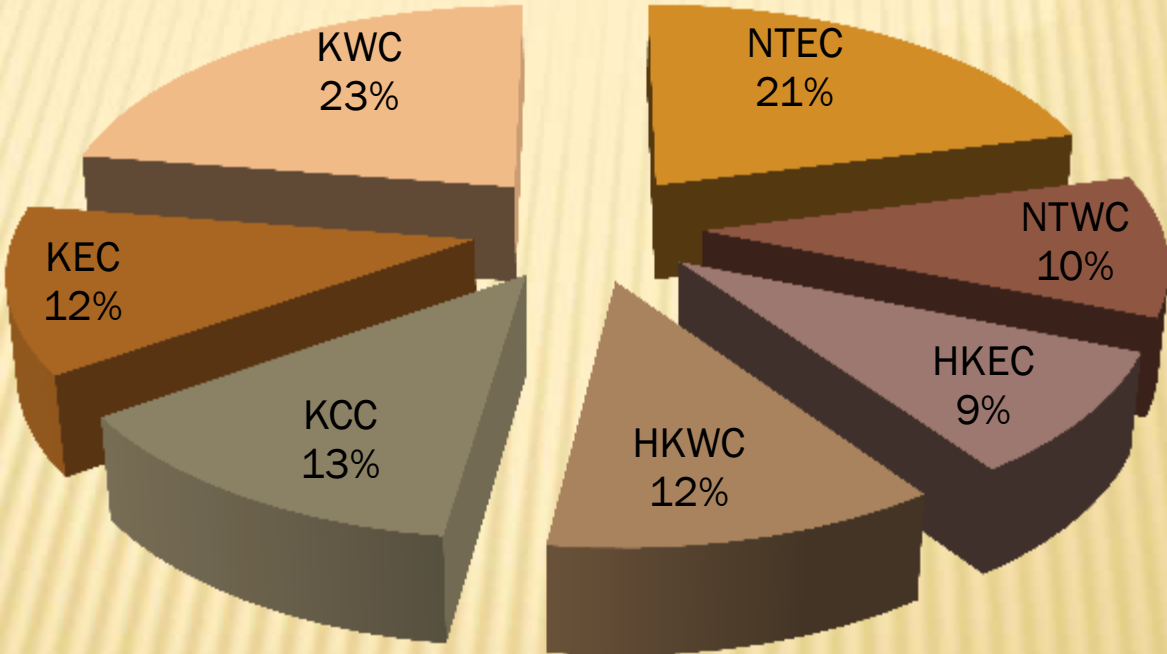
HA SEDATION COURSES

- ❖ Enhancing Sedation Safety Course for Doctors
 - In collaboration with HKCA
- ❖ Safe Sedation Nursing Course
 - In collaboration with HKCA & IANS
- ❖ Enhancing Sedation Safety for Children having Diagnostic & Therapeutic Procedures
 - In collaboration with HKCA, HKCPaediatricians, COCs
- ❖ Individual Hospital's own course
 - NTWC, KCC, etc

COURSE STATISTICS 2010-2015

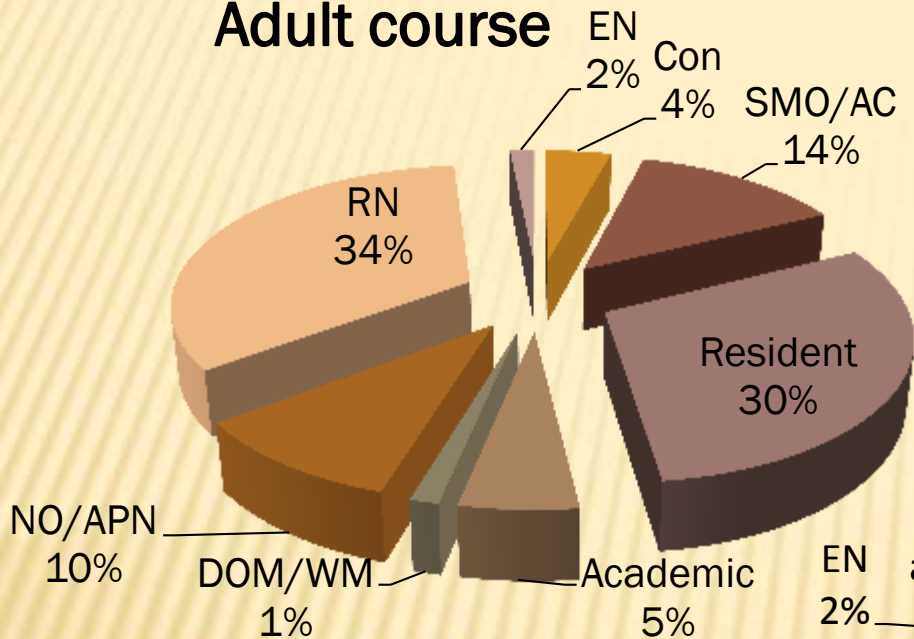
	Doctors	Nurses	Total
Enhancing sedation safety course in Adults for Doctors & Nurses	601	589	1190
Enhancing sedation safety in Children having diagnostic and therapeutic procedures	112	111	223
Total	713	680	1413

DISTRIBUTION BY CLUSTERS

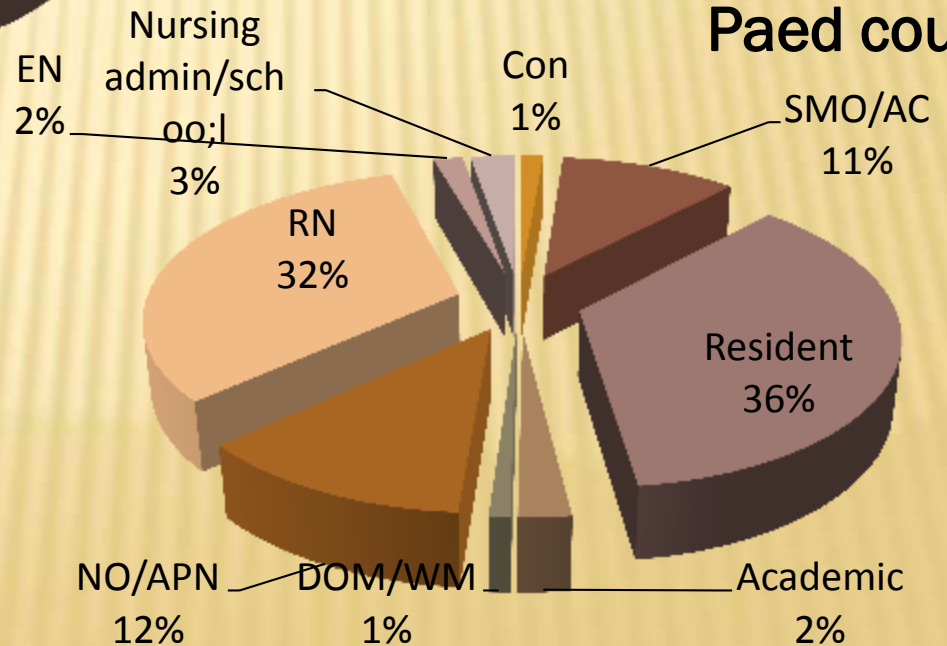


DISTRIBUTION BY RANKS

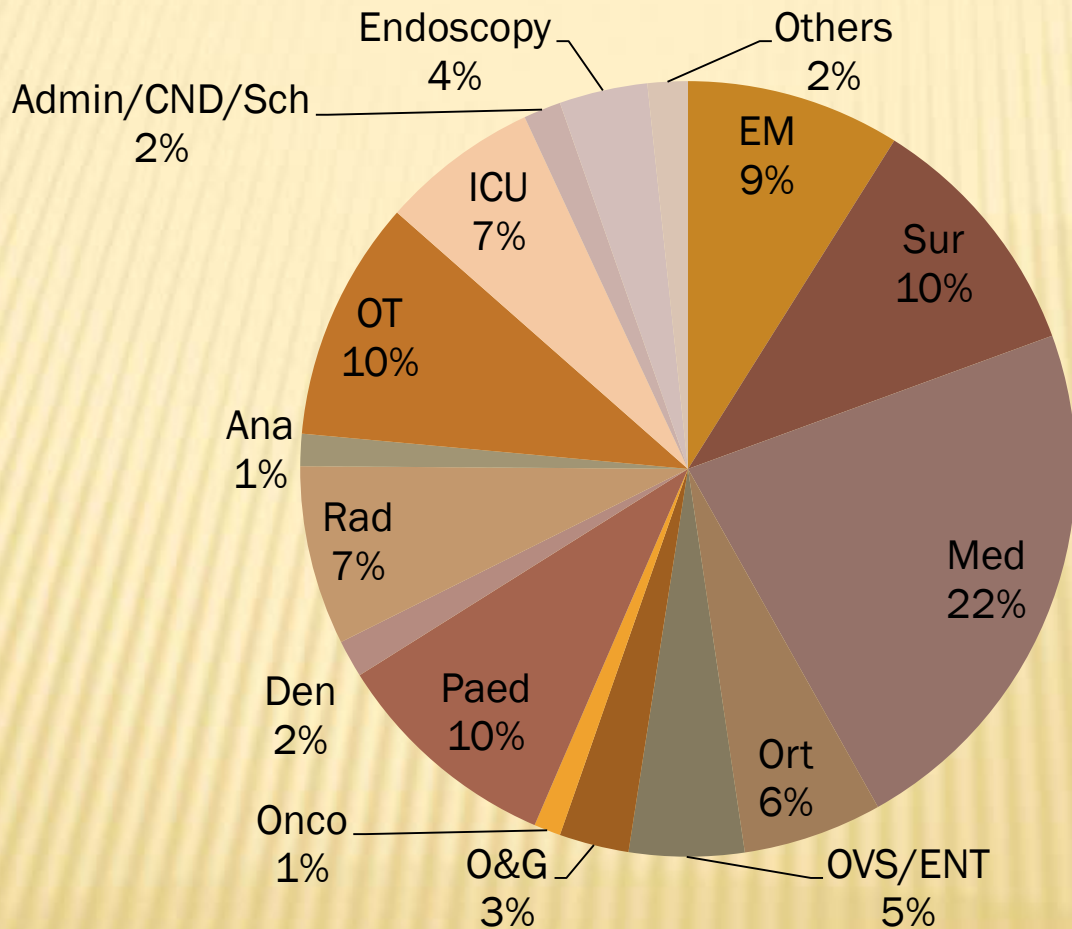
Adult course



Paed course



BY SPECIALTIES (ADULT COURSE)



EVALUATION

(Scale of 1-5, score of 5 = mastery & strongly agree)

	Before workshop (median (range))	After workshop (median (range))	p-value
Rate your level of competence on material covered in this course	2.71 (1.67-3.21)	3.66 (3.08-4.08)	0.001
This course will help me work more safely	-	4.38 (3.90-5.00)	-
I shall change my practice as a results of this workshop	-	4.00 (3.52-4.56)	-

CHALLENGES

- ❖ Lacking in suitable courses for different needs
- ❖ Inadequate qualified trainers
- ❖ Learners & trainers difficult to get time off
- ❖ No mechanism to ensure recommended standards
- ❖ Patients getting older, more complex comorbidity

WAY FORWARD

- ❖ Non-Anaesthesiologists will continue providing most sedation service
- ❖ Establish
 - an appropriate service model for procedural sedation
 - an effective mechanism for governance and monitoring
- ❖ Basic sedation safety training mandatory for all
- ❖ Advanced training for providers of iv sedation
- ❖ Adequate Anaesthesiologist's support for difficult and paediatric cases

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THANK YOU!

