Contents

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Credentialing and Defining Scope of Practice in Anaesthesia

PS2 – 2006

Credentialing = verification of qualifications, experience and professional standing of anaesthetists in order to decide whether they are capable and safe to provide particular perioperative care within an organisation.

Scope of Practice = delineating the extent of an individuals clinical practice within an organisation.

Qualifications – only those with appropriate qualifications and experience should carry out anaesthesia

Credentialing Committee – should be set up to evaluate those practicing anaesthesia at there institution.

Credentialing Process:

- must be fair, transparent and legally robust
- unique to the granting institution
- prospective
- approved for specific time frames
- active participation in CPD
- written down process
- opporuntiy for anaesthetist to comment before final decision
- may include performance review

Major Regional Analgesia

PS3 2014

Applies to:
- central neuraxial blocks
- techniques where catheter is inserted and left in situ
- significant dose of LA is administered

General Principles

1. suitably trained and experienced or under supervision of such pracitioner
2. have an understanding of anatomy, physiology, pharmacology and equipment
3. be able to manage complications (local and systemic)

- informed consent: should include nerve injury, drug toxicity, haemodynamic changes, bleeding or bruising, infection, failed or incomplete anaesthesia or post-dural puncture headache
- appropriate assistance
- suitable enviroment
- sterile technique (sterile field, gown, gloves, mask where appropriate)
- clinical assessment of patient's coagulation status and anticoagulation medications
- IV access
- appropriate monitoring: BP, RR, conscious state. ECG and sO2 available
- Block time out: verification of the site and side, identification of patient, consent check, identification surgical site mark, discussion with patient and mark close to blcok site to be visible during block performance
- anaesthetist must be immediately available to ensure patient stable
- if surgical procedure, then present throughout
- written record plus instructions for subsequent management
- handed over to appropriately trained staff
- formal institutional protocols/guidelines in place

Specific Principles

- suitably trained staff
- clear labelling, unique tubing colour
- specific infusion pumps (max infusion rate and max bolus dose)
- observations (selection of): BP, HR, T, RR, pain scores, sedation score, SpO2, urinary output, sensory levels and motor function
- assess pain @ rest and activity
- Protocols for recognition and treatment of adverse effects and complications
- daily review by anaesthetic staff (infection, neurology, medications)
- after termination of major regional analgesia, follow-up assessment is desirable
- protcol for timing of removal of catheters and its documentation
- adequate transitional analgesia should be prescribed and pharmacological interaractions should be avoided (eg systemic opiods shortly after SA morphine)

Specific Obstetrics (in addition)

- woman needs to be under obstetrician who can assess as necessary and rapidly deliver baby if needed
- proceduralist needs to ensure that woman has consented after having been informed about advantages, disadvantages including possible complications, and alternatives
- qualified interpreter (not family member) should be engaged whereever possible to assist with consent and communication during procedure and afterwards
- skilled staff and monitoring equipment thourghout labour to ensure care for woman and foetus
- monitoring following delivery until all effects of the block have subsided

Equipment and Staffing
- desirable US and nerve stimulator available if appropriate
- consideration given to availability of lipid emulsion

PACU

PS4-2006

General

- must be well-planned, well-equipped, well staffed and well-managed
- designated area
- close to where anaesthesia/sedation administered
- trained staff that is able to contact supervising medical staff promptly if needed

Design

- part of operating/procedural suite
- easy access (street clothes access as well)
- adequate ventilation (OT standard)
- 9m^2 for each bed space
- easy access to the patients head
- at least 1.5 spaces available per operating room
- should allow uninterrupted view of several patients at once
- bed space: O2 outlet, suction, power outlets, allow adequate skin colour assessment, emergency lighting, areas to mount equipment
- space for nursing station, utility room and storage
- scrub facilities
- wall clock
- emergency call system
- telephone with access to hospital paging system
- access for portable x-ray and viewing
- emergency power supply

Equipment and Drugs

bed space:
- O2 flowmeter and delivery
- suction
- SpO2
- NIBP
- T
- stethscope

recovery area:
- bag-mask
- emergency airway trolley
- emergency drugs
- IV access and fluids
- analgesics
- needles and syringes
- warming devices
- ETCO2 measurement

Easy access:
- 12 lead ECG
- defibrillator
- PNS
- chest drains
- warming cupboard

- refrigerator for drugs and blood
- procedure light
- basic surgical tray
- ABG and Electolytes
- diagnostic imaging services
- apparatus for mechanical ventilation lungs
- IABP and CVL monitoring

bed:
- firmbase and mattress
- tiltable both ways
- easy to manoeuvre
- brakes
- able to sit patient up
- secure rails (that can be dropped or removed)
- IV pole
- able to mount equipment including O2

Staffing

- trained and present at all times
- charge nurse
- supervision for trainees and unexperienced nurses
- one nurse to every patient who is unconscious
- one nurse to 3 patients who are conscious

Management and Supervision

- protocols for management
- written routine checking of equipment and drugs
- minimum of 3 people for lifting/transferring anaesthetised patients
- anaesthetist always contactable
- recording of observations (LOC, SpO2, RR, P, BP, T)
- all patients should fulfill discharge criteria

anaesthetist:
- verbal and written instructions
- O2 therapy prescribed
- remain in vicinity until patient safe to be left with recovery staff
- supervise recovery period and authorise patietnt's discharge from recovery

The Anaesthesia Record

PS6 (2006)

Essential part of patients record, allows to document all aspect of the anaesthesia management.
Provides information that may assist other staff involved in patient care, and subsequent anaesthetists.
Medico-legal importance, can be used for QA and research.

Must be signed by Anaesthetist/s.

Should include:

1. **Basic info**
    1. patient name/hospital no./age/gender/weight, hospital name
    2. date of pre-anaesthesia consult and of anaesthesia
    3. anaesthetist name
    4. surgeon/proceduralist
    5. brief description of procedure actually performed

2. **Pre-anaesthesia consultation information;** normally includes:
    1. general medical status summary
    2. concurrent therapies, drug/other sensitivities
    3. prev anaesthesia hx and relevant surgical hx
    4. airway and dental condition assessment
    5. relevant investigations
    6. pre-medicant drugs administered (if not elsewhere)
    7. outline of anaesthesia plan
    8. documentation of discussion re plan/therapies/outcomes/risks

3. **Anaesthesia Information**
    1. technique
    2. medications
    3. airway - size and type, problems encountered and method of resolution
    4. breathing system - circuit, gas flows, controlled ventilation technique
    5. monitoring - methods and regular documentation of information obtained
    6. fluid and vascular access
    7. blood loss
    8. position - and protective measures used
    9. time
    10. complications or problems

4. **Post-anaesthesia information** (if not elsewhere)
    1. resp/cvs/neurol status
    2. incidents arising during this period and mx
    3. plan for pain mx, fluid therapy, O2 therapy
    4. time and d/c destination
    5. space for documentation of post-anaesthesia visit
    6. space for documentation of outcome data

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The Pre-Anaesthesia Consultation

PS7-2008

Goals

- assess and optimize patient
- plan management
- allow appropriate discussion
- obtain informed consent

General

- even if pre-anaesthesia consultation has been performed by other person, practitioner performing anaesthesia must be satisfied that all elements of that consultation have been adequately addressed and if necessary repeat them
- information from questionnaires, telephone consults or nursing assessments may help in assessment
- appropriate time prior to anaesthesia, particulary if significant patient co-morbidity, major surgery or specific anaesthetic concerns

Facilities

- appropriate equipment
- hand washing
- space for clinical assessment (privacy & sensitivity)
- not appropriate in operating theatre for elective procedures

Guidelines

- ID self
- confirm patients ID, procedure, side and proceduralist
- appropriate clinical assessment (history, examination, investigations and management)
- this medical assessment my lead to delay, postponment or even cancellation of planned procedure
- consult with colleagues if required
- discussion of techniques & complications, pain management
- any questions?
- educational material (in timely manner)
- obtain consent
- order pre-medications
- document

The Assistant for the Anaesthetist

PS8-2012

General

- it is important for patient safety
- apply to general anaesthesia, regional anaesthesia, local anaesthesia and/or sedation
- should be present for preparation and induction, during maintenance (at short notice) and conclusion of anaesthesia
- should remain under the immediate direction of the anaesthetist until instructed that this level of assissatance is no longer required

Deployment

- all locations where anaesthesia administered
- every case where anaesthesia is administered
- duties specified in appropriate job description
- there needs to be a senior supervisor
- whilst assisting the anaesthesist, the assistant must be wholly and exclusisvley responsible to that anaesthetist

Educational requirements

Completed a training course:

Eligibility
- High school certificate or nursing certificate

General
- appropriate institute of learning
- full-time, part-time or combination
- continious employment during part time components of course

Content
- lectures and supervised practical experience
- successful completion of assignments and examinations
- input from anaesthetists
- Basic Sciences: Physics, Chemistry, Pharmacology, Anatomy, Physiology, Clinical measurement and Microbiology
- Anaesthesia: Anaesthetic equipment, Safety, Anaesthetic techniques, regional and local anaesthesia, invasive techniques, ultrasound, therapeutics, emergency care, postoperative care
- Management: Rostering, budgets, Anaesthesia standarts and protocols, incident monitoring, workplace, occupational health and safety regulations, communication, privacy protection, interfaces with other healthcare workers, legal responsibilites and human resource management

Duration
- three years if no previous hospital experience
- two/one year if registered nurse division 2/1 qualification

Continuing Education
Maintain and upgrade their knowledge and skills with regular continuing education activities
Management must ensure that staff establishments and rostering practices allow for this

Sedation & Analgesia for Procedures (PS9-2010)

Shared guideline with Gastroenterologists, Surgeons, ED, ICU, dental surgeons, Pain and radiologists

Definitions

A. Procecural sedation and/or analgesia implies that the patient is in a state of drug-induced tolerance of uncomfortable or painful diagnostic or interventional medical, dental or surgical procedures. Lack of memory for distressing events and/or analgesia are desired outcomes, but a lack of response to painful stimulation is not assured.

- Conscious sedation – drug induced depression of consciousness in which a patient is able to respond to verbal command or light tactile stimulation. No interventions required to maintain airway, spontaneous ventilation or CVS function

- Deep levels of sedation – where consciousness is lost and patient only responds to painful stimuli. Unable to maintain on airway, inadequate SV and/or impaired CVS function. Similar risks to GA and may require equivalent level of care.

- Analgesia is reduction or elimination of pain perception usually by drugs, that act locally or centrally

B. General anaesthesia – drug induced state that is characterized by absence of purposeful response to any stimulus, loss of protective airway reflexes, depression of respiration and disturbance of circulatory reflexes

General
- Transition from complete consciousness through the various depths of sedation to GA is a continuum and not a set of discrete stages.
- Margin of safety of drugs used for sedation varies widely between patients

Practictioner must be prepared to deal with:

- depression of protective airway reflexes and loss of airway patency
- depression of respiration
- depression of CVS system
- adverse drug reactions (including anaphylaxis)
- individual variations in response to drugs (especially with elderly or children)
- possibility of deeper anaesthesia being required for inadequate analgesia or LA
- risks inherent to the procedure
- potential for high sensitivity to medications

Process
- patient consent
- clinical assessment (any one sick -> an anaesthetist should be present)

Staffing
Exept for very light conscious sedation and/or analgesic technique such as inhaled NO or low dose oral sedation:
- 3 people present (proceduralist, assistant and medical practitioner to administer sedation & monitor patient)
- assistant must be exclusively available to practitioner at induction/emergence and during procedureas required
- if GA intended, then fourth person to specifically assist anaesthetist is required
- Deep sedation or GA only if anaesthetist or appropriately trained medical specialist within their scope of practice
- If proceduralist only doctor, then he must have ALS training and have assistant to give drugs and monitor patient who is adequately trained. **Propofol, Thio and other anaesthetic agents must not be used**

Facility
- adequate facilities including equipment (O2, BMV, Suction, airway equipment)
- monitoring SpO2 and BP
- ready access to ECG and defibrillator

- in facility ETCO2
- drugs: Adrenaline, Atropine, Dextrose 50%, Lignocaine, Naloxone, Flumazenil, portable O2

Techniqe and Monitoring
- IV access (exception non-IV sedation small children or intellectually disabled patients)
- continious sO2
- must have O2 for as much of the procedure as possible
- midaz and fentanyl OK (no propofol unless administered by second trained medical practitioner)
- documentation sO2, HR, BP
- adequate recovery facility

Smoking related to the perioperative period

PS12 (2014)

Introduction
- Smoking is the biggest preventable cause of death and disease in Australasia
- Increases risk of peri-operative respiratory, cardiovascular and wound complications
- ANZCA is committed to its health advocacy role
- Each anaesthetic contact is a "teachable moment"

Issues
- 15500 deaths in AU and 5000 deaths in NZ each year directly due to tobacco
- half of all smokers will eventually die as a result of their smoking
- Quitting before age 40 reduces the risk of death associated with smoking by about 90 % - - Over 300 studies have shown smoking to have negative surgical outcomes
- Smoking cessation preoperatively is known to improve surgical outcome
- No agreed optimal time for cessation of smoking pre-operatively, all agree that the longer the better
- Poor rates of spontaneous cessation (2 % per annum)

Assisting patients to quit
AAR
Ask – always ask, even if the answer is known, as reinforces negativity
Advise – highlight specific peri-operative risks and benefits of quitting
Refer – Quitline increases cessation rates by up to 50%
Cessation can be assisted with pharmacological adjuncts – nictine replacement therapy, nicotine partial agonists, Nortriptyline and Clonidine
Cessation aided by non-pharmacological adjuncts – individual or group counseling, rapid smoking aversive therapy

Pharmacology:
Harmful toxins are present in higher concentrations in side-stream smoke so passive smokers are still at high risk
Smoke induces CYP450 enzymes – CYP1A1, 1A2, 2E1
Induces phase 1 reactions in the liver – oxidation/hydroxylation
Smokers have higher opioid requirements and experience more post-operative pain

Positive effects of quitting
1 day = lower carboxyhaemaglobin and nicotine levels, and improved oxygen delivery to tissues
3 Weeks = improved wound healing
6-8 weeks = reduced sputum volumes (back to non-smoking levels) and improved pulmonary function
6 Months = improved immune function

ABC of Intervention
A = ask
B = brief advice
C = cessation:
- Quit card
- Quit line
- Quit drugs: patch, lozenge, gum

Day Stay Anaesthesia

PS15-2010

Def: Patient will be discharged from the hospital or the unit later on the day of the procedure

Suitable Procedures
- minimal risk of haemorrhage
- minimal risk of airway compromise
- pain controllable as an outpatient
- post op care able to managed by patient/responsible adult
- post op nursing requirements met by day surgery, home or district nurse
- rapid return to normal fluid and food intake
- organise list so procedures with long recovery periods happen early

Suitable Patients
- willing & understand process
- ability to follow discharge instructions
- residence within 1 hours travelling time from appropriate medical attention
- ASA I, II or medically stable III or IV
- term infants over six weeks
- ex-premature infants (< 37 weeks gestation) over 52 weeks post-conceptual age
- younger infants may be accepted in units with particular paediatric experience

Suitable Social Requirements
- responsible person
- transport (suitable vehicle)
- patient and/or responsible person undrstand the requirements and intend to comply
- within 1 hour of medical attention
- telephone
- advice regarding activities such as driving and decision making

Patient Preparation
- standard clinical assessment
- written information about how day will go
- adequate fasting

=> adults:
    - food 6 hours,
    - clear fluids 200 ml/hour up to 2 hours

=> Healthy children > 6 months = adults

=> Healthy infants < 6 months =
    - 4 hr solids/cow milk
    - 3 hr breast milk
    - 2 hr clear fluid (incl clear fruit juice)

- chewing gums is **not** a contraindication to elective surgery at any time

PPI for risk patients

Discharge Criteria
- stable vital signs for > 1 hour
- orientated
- adequate pain control
- controlled N+V
- adquate hydration
- minimal bleeding
- passed urine (it at risk of urinary retention)
- responsible adult
- adequate written and verbal instructions given (contact numbers)
- suitable analgesia for at least first day after discharge and clear written instructions

- telephone follow up (ideally)

Quality Assurance

Standards of Care of Specialist Anaesthetist

27/2/09
PS16 – 2008

The Specialist Anaesthetist

- Doctor + FANZCA (or equivalent)
- skilful & ethical in the practice of anaesthesia
- maintenance of skill through volume & complexity of work
- CPD commitment:
  - Peer review:
    - team room
    - mentor
    - MSF
    - Case conferences
    - M&M
    - critical inciden debriefing
    - ANZCA peer review
    - employer credentialing process
  - Audit
  - Cultural competence
- retraining required if been away for a period of time or in new area of practice
- are in good physical and emotional health
- free of chemical dependence
- as ages -> competence regularly assessed

The Work Environment

- balance between patient care, education, and quality assurance activities
- avoid professional isolation
- avoidance of fatigue

Monitoring

PS18 - 2013

General principles

- monitoring must take place in the context of careful clinical observation by the anaesthetist -> equipment is not enough sometimes
- visual and auditory alarms must be appropriate and enabled at the commencement of anaesthesia

Clinical Monitoring
- monitoring must be done by someone not involved in procedure
- medical practioner solely responsible for provision of anaesthetic care must be constantly present from induction until safe transfer to revocery room staff or ICU
- appropriately qualified individual can briefly monitor patient in exeptional circumstances
- includes regular assessment and recording of circulation, ventilation and oxygenation

Monitoring Equipement

Available to use on every patient
When in use, alarms (visual and audible)must be enabled and appropriate

- O2 analyser (M when anaesthesia breathing system)
- breathing system disconnection or ventilator failure alarm (M with automatic ventilator)
- SpO2 with variable pulse tone and low threshold alarm (M GA/sedation)
- ECG (5 lead available) (A)
- NIBP (variety cuff sizes) (A)
- IBP (A)
- CO2 monitor (M GA)
- Volatile anaesthetic monitor (M volatile GA)
- Temperature monitor (core) (A)
- Neuromuscular function monitor (A if NMB)
- Anaesthetic effect on brain monitor (A when clinically indicated for high risk awareness GA)
- Other – EEG, CVP, TOE, cardiac output, respiratory mechanics (A when clinically indicated)

(M) – mandatory
(A) – Available

Consent

PS26-2005

The process by which a patient is informed and voluntarily allowing a procedure or investigation to be performed on themselves, having considered the risks and benefits.

General Principles

AUS: common law
NZ: Code of Health and Disability Services Consumers' Rights

Provision of information intergral part
Process involves discussion in which both the patient and the doctor participate actively, and which is open, honest and effective

Elements

- voluntary
no coercion
refusal or withdrawal must be a realistic option

- with capacity
all persons are presumed to be competent to give consent unless there are reasonable grounds for believing otherwise
Minimum age depends on nature of proposed treatment and local legislative requirements. Young person should be able to understand the nature, purpose and possible consequences of the treatment, as well as the consequences of non-treatment.
Parents or legal guardian can give consent on behalf of patient in certain legally defined circumstances
If not able to give consent, can only proceed if it in the patients best interest and reasonable steps have been taken to ascertain the view of the patient (might need appt. legal guardian)
Full consent might not be possible if urgent immediate intervention necessary to preserve life or prevent serious harm.
Patient can change his mind and withdraw consent

- informed
Provided with all information that a reasonable patient might wish to know and to which he might attach significance.
Information to all material risks inherent in any proposed Tx
Basic information even if patient requests no information
Discussion of risks and benefits should include those associated with the proposed treatment, alternative treatments and no treatment at all.
Known risks should be explained when an adverse outcome is rare, but the detriment severe, and an adverse outcome common, but the detriment slight
Opportunity must be given to discuss the nature and the risks of the treatment and the alternative treatment and to have questions answered
Information should be in a form that the patient is likely to understand

Documentation
Highly recommended that detailed notes of the discussion and all risks considered are kept by the provider

Standard Consent forms and information sheets
Can help understanding, but are not a substitute for the required discussion with the patient
Signed form not conclusive proof that valid consent has been obtained

Personnel
Best performed by the anaesthetist who will be conducting the treatment

If proceduralist can only see the patient immediately prior to the procedure, the discussion of risks etc. should have been done previously eg in PAC
Those involved with consent process are individually responsible for appropriate documentation
A qualified interpreter (not a family member) should be used wherever necessary

Major Extracorporeal perfusion – i.e. bypass

Organisation of ECP service:

1) **Hospital based service with adequate trained personnel**
2) **Head of ECP service to be a physician or reportable to a physician**
3) **Head to guide all policies on drugs to be used**
4) **Staff to ensure…**
    a. **Enough cover for 24 hour care inc emergencies**
    b. **All equipment standards maintained**
    c. **Inventory of all disposable equipment supplies**
    d. **Ongoing assessment of cost-effectiveness of equipment**
    e. **Ongoing research into ECP**
5) **Facilities…**
    a. **Close to theatre and PACU**
    b. **Storage of disposables and hardware**
    c. **Storage of perfusion records and data for QA purposes**

Training and CPD:

1) **Training in all areas of ECP inc anaesthesia, bypass machine and drugs**
2) **Knowledge of principles of equipment and ability to operate it during surgery**
3) **Knowledge of associated devices such as IABP, cell-savers, haemofiltration, ECMO, ventricular assist devices**
4) **Prior to training in medical perfusion trainees must have a background in physiology and pharmacology, e.g. FANZCA**
5) **Training period of at least 12 months and covering at least 75 cases of perfusion (first 50 under close supervision)**
6) **Must involve ability to assemble ECP equipment**
7) **Last 25 cases of training period can be independent with a qualified practitioner immediately available**
8) **Must cover simulated scenarios of pump head failure, gas in the circuit, oxygenator changeout**
9) **Logbook to be maintained recording at least 40 ECPs per year, at least 20 of which the medical perfusionist operating the heart-lung machine**

Heart-lung machines for ECP

1) **Compliance/Standards/Maintenance**
    a. **As per NZ electromedical standards**
    b. **Regular biomedical inspection and maintenance**
2) **Components**
    a. **Pump heads**
        i. **Manual overdrive function with cranking mechanism immediately available**
        ii. **At least 3pump heads**
        iii. **Alarms for low reservoir detection/high arterial pressure/bubbles**
        iv. **Runaway circuit control circuitry**
        v. **Display pump flow in l/min or rpm**
        vi. **Lockable so that reverse flow requires 2 actions**
    b. **Gas supply, ECP machine connected to**
        i. **Pin-index gas supply**
        ii. **Emergency O2**
        iii. **Gas flow blenders**
        iv. **Gas filter and oxygen analyser**
        v. **Scavenging**
    c. **Heat exchange source**
        i. **Hot and cold water from an external piped system**
        ii. **Self container electronic heater/cooler 4-42 degrees**
        iii. **Water temperature/volume/flow alarms**
        iv. **Back-up heat exchanger available**
    d. **Low level detection**
        i. **Mandatory**
        ii. **Attached to the blood reservoir/oxygenator**
        iii. **Audible and visual alarms**
    e. **Arterial line pressure monitor**
        i. **Continuous display of patients BP**
        ii. **Measured pre and post membrane oxygenator – measures trans-membrane gradient**
        iii. **Audible and visual alarms with manual over-ride facility**

f. **Gas emboli detector**

i. **Mandatory**

ii. **Monitors arterial line for bubbles**

iii. **Audible and visual alarms with manual over-ride facility**

g. **Venous Hb sats monitor**

i. **Mandatory**

ii. **In the venous line at the point most distal from the patient**

h. **Other equipment**

i. **Electrical source incorporated into the UPS system**

ii. **Light source for reservoir**

iii. **Arterial and venous thermometers**

iv. **Cardioplegia delivery device, e.g. syringe driver**

Clinical management of ECP

1) **Pre-op assessment**

a. **Assess risks and consent patient for by-pass, unless emergency**

2) **Circuit assembly & priming**

a. **According to institute protocols covering priming solutions, sterile practices and safety checks**

b. **Checklist should be available**

c. **Drugs adding during priming should be checked and recorded**

3) **Initiation of ECP**

a. **Perfusionist to be immediately and exclusively available for one patient**

b. **Anticoagulation status to be checked and recorded**

4) **Maintenance of ECP**

a. **Continuous, vigilant monitoring of all physiological and machine parameters and coagulation status**

b. **Maintenance of appropriate cardiovascular flows and pressures, taking into account patient co-morbidities**

c. **Good communication between perfusionist, anaesthetist and surgeon**

5) **Cessation of ECP**

a. **Resume normal cardiac and pulmonary functions**

b. **ECP to remain in function state until surgeon, anaesthetist and perfusionist all agree it is no longer needed**

6) **Patient records**

a. **Patient details and procedure undertaken**

b. **Staff names**

c. **Equipment used inc serial number of disposable items**

d. **Completed, signed pre-bypass checklist**

e. **Machine and physiological parameters**

f. **Fluids and drugs administered, including priming agents**

g. **Cardioplegia type, volume and route**

h. **Fluid balance**

i. **Notable events**

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Infection control in Anaesthesia

PS28 (2013)

Definitions:
Asepsis
prevention of microbial contamination of living tissues or sterile materials

Decontamination
removal of micro-organisms and unwanted matter from contaminated materials or living tissue

Disinfection
inactivation of non-sporing organisms using thermal or chemical means.

Sterilisation
complete destruction of all micro-organisms including spores.

Thorough decontamination must precede disinfection or sterilisation

Equipment
Critical - device that penetrates the skin or mucous membranes, enter a vascular system or sterile space.
These require sterilisation

Semi-critical - devices in contact with intact mucous membranes or that may be contaminated with readily transmissible organisms. These require high level disinfection or sterilization

Non-critical - devices contacts intact skin or does not contact the patient directly.
These require low level disinfection or cleaning only

Infection prevention

Standard precautions
Applies to all patients where there is a risk of body fluid splash/spray
Includes gloves, eyewear or face shields, masks, gowns and/or plastic aprons

Hand hygiene
- Most important infection control measure
- Hand hygiene encompasses use of soap/solution or alcohol gel
- Performed before and after each patient contact
- Alcohol solutions disinfect, anti-septics slow bacterial re-growth
- Best alcohol concentration is 60% as protein denaturisation process is water dependent
- Best chlorhexidine concentration is 2-4%

HGM
Wear non-sterile gloves for anticipated contact with blood or bodily fluids
Perform hand hygiene before and after wearing non-sterile gloves.
Take care not to contaminate the patient care environment after patient contact
Insufficient evidence for wearing masks in all theatres for all procedures. Should be worn in accordance with local policy. Should cover the nose and mouth completely. Should not be worn around the neck. Should be removed immediately after use. Perform hand hygiene after mask removal
Hair should be covered completely by a disposable/laundered lint free hat

Theatre attire
Freshly laundered suits, gowns and overshoes
Changed daily and during the shift if visibly soiled
Dedicated theatre footwear to meet occ health standards

Overshoes not necessary for clean/dedicated shoes

Theatre flow
Minimal flow through theatre. Doors to remain closed

Sharps
Safe disposal immediately after use
Don't resheath, bent or manipulate
Encourage needle free injection systems and needle protection systems
Hospital protocol for needle-stick injury/bodily fluid exposure
Medical evaluation and post-exposure prophylaxis as per National Health Medical Research Council guidelines

Antibiotic chemoprophylaxis
Agent choice to follow local surgical prophylaxis guidelines
Important to administer timely

Vaccination of healthcare workers
Institute to provide screening and vaccination programmes for workers
Practitioners responsibility to ensure they are up to date with immunisations

Anaesthetic equipment

Disposable items
Universal condemnation of re-use of single use item

Upper airway devices
Face-masks are semi-critical
Laryngoscope are critical
Laryngoscope handles are non-critical unless contaminated with blood and are then semi-critical
Bougies are associated with spread of infection so should be disposable

Anaesthetic breathing systems
Can be re-used if a filter has been used
Should be changed if visibly contaminated or used in high risk patients, e.g. TB
Breathing bags are non-critical and should be decontaminated between each patient

Gas sampling lines
Do not need to be sterilized
Should always be used with a 0.2micrometre mesh viral filter

Anaesthetic machines
Periodic cleaning and disinfection as per local policy

Anaesthetic surfaces and monitors
Cleaned/disinfected between patients
Includes bp cuffs, ecg lines, pulse ox probes, monitors

Bronchoscopes
Semi-critical, includes attention to the suction port

Ultrasound probes
Non-critical if used for non-invasive procedures – disinfect
Semi-critical if used for invasive procedures (CV lines) – cover probe with sterile sheath, disinfect afterwards as non-critical
Cleaning involves the whole cable not just the probe head
Any probe contaminated with blood should be treated as critical

TOE probes
Semi-critical – cleaning to include all external surfaces not just the probe cable

Invasive procedures:

Peripheral IV cannulation
observe strict hand hygiene and wear gloves
Use 70% alcohol/chlorhex swab first
No evidence for routine replacement of peripheral IV cannulae

Central IV cannulation
Aseptic technique using .5 or 2% chlorhex/70% alcohol. CLAB precautions
Maximal barrier precautions, including full body draping and hat/facemask/gown/gloves
Checklist recommended

Regional anaesthesia
Single-shot = treat minimum as per IV cannula aseptic precautions
Neuraxial block/Catheter technique = treat as per CV cannula insertion precautions

Chlorhexidine Gluconate
Free alternatives should be stocked for patients with known or suspected allergy

Drugs for injection

Avoid contamination especially if preservative free preparation
One ampoule – one patient
Take care with glass ampoules
Filter needles need to have 0.2 micron filter to be effective.

By J Dieterle, M Woolley, J McAlpine, M Ku, A Hollingworth

Anaesthesia care of children in healthcare facilities without dedicated paediatric facilities

PS29-2008

Local Policy
- details criteria for management of anaesthesia, surgery and nursing care
- developed and documented jointly by representatives of the anaesthesia, surgery and nursing staffs
- reviewed at least every 5 years

Factors to be considered

Age
Infants < 12 months
Neonates < 28 days

Staff training and experience
- individual anaesthetists should not be required to provide anaesthesia are without regular clinical exposure to an extent necessary to maintain and be comfortable with their competence
- of benefit to have second anaesthestist for care of infants and children classified as ASA 3 or greater
- anaesthesia assistants and nursing staff must be trained in the care of children
- liaison with specialist paediatric facility so that authorative advice available at all times

Equipment and Facilities
- appropriate equipment for the needs of children and infants
- climate control and equipment to maintain body temperature
- monitoring equipment suitable for children and infants
- separate ward area in the facility
- area where parents and child can be seen privately in the perioperative phase

Consider for transfer to Specialist Children's Hospital
- Neonates
- Infants born < 37 weeks gestation with postconceptual age < 52 weeks
- infants with history of apnoeic episodes
- infants or children with unusual and/or complex medical or surgical problems classified as ASA 3 or greater

Checking of anaesthesia delivery systems

(2014)

Principles:

1) **Responsibilities…**
    a. **Designated person to service and maintain equipment**
    b. **Train personnel in use of and checking of machines**
    c. **Maintaining an up-to-date machine specific protocol**
2) **Servicing**
    a. **Regular intervals as specified by the manufacturer**
    b. **Detailed records kept**
    c. **Date of most recent service and date of due service to be stickered on the machine**
3) **Compliance with relevant college documents**
4) **Immediately available secondary means of oxygenation and ventilation**

Levels of checks:

Designated person in each dept to organize machine checks and train personnel into to check the machine

1) **1 – detailed check of all systems. Performed by trained personnel before use/after service/after repair**
2) **2 – performed by technician/anaesthetist at the start of each list (checklist on the machine)**
3) **3 – performed before each patient by technician/anaesthetist (checklist on the machine)**

Protocols:

LEVEL 1 check

1) **Gas delivery devices; checklists to cover…**
    a. **Leaks**
    b. **Gas pipeline connections**
    c. **Non-return valves**
    d. **Oxygen failure warning and gas (nitrous) shutoff**
    e. **Delivered gas flow rates and composition**
    f. **Battery performance**
    g. **Electrical safety**

2) **Inhalational delivery devices**
    a. **No leaks when on or off**
    b. **Thermostat**
    c. **Concentration of vapour delivered**
    d. **Batteries and electrical safety**
3) **Ventilators**
    a. **Mechanical integrity**
    b. **Pressure and volume delivery**
    c. **Alarms**
    d. **Batteries and electrical safety**
4) **IV infusion pumps**
    a. **Mechanical integrity**
    b. **Output accuracy**
    c. **Occlusion pressure**
    d. **Alarms**
    e. **Battery and electrical safety**
5) **Other equipment**
    a. **Scavenging and suction checks**

LEVEL 2 check

1) **Service label – confirm presence and date**
2) **High pressure system**
    a. **Reserve oxygen content. pressure and leaks**
    b. **Gas supply lines**
3) **Low pressure system**
    a. **Flow controls – check oxygen delivery alarm and anti-hypoxic device**
    b. **Inhalational devices – check electricity supply, fluid level, circuit leaks**
    c. **Breathing systems – manual inspection, CO2 absorber colour, leak test, unidirectional valves,**
4) **Ventilation – as per manufacturer guidelines, check O2 disconnect/high pressure alarms**
5) **Scavenging – scavenging flow connected to scavenging system**

6) **Emergency ventilation – alternative method of ventilating and oxygenation mandatory**

7) **IV infusion pumps – no leaks, anti-reflux valves, calibrated**

8) **Other – suction, filters, airway equipment**

9) **Turn off vapours and purge system with air or oxygen**

10) **Document check performed**

LEVEL 3 check

1) **Check vapour delivery device if changed**

2) **Check breathing system if changed**

3) **Check IV infusion pumps**

4) **Check other apparatus**

Relief of Pain and Suffering and End of Life Decisions

PS38 (2010)

ANZCA supports

- the concept of death with dignity and comfort
- access to expert palliative care
- Relief of pain and suffering and not the death is the primary intent
- respect the right of the mentally competent patients to decline treatment or request treatment withdrawal even if such treatment may be life saving
- do not support medical interventions which offer no benefit to the patient
- do not support medical intervention in which the intent is to end life
- to respect individual beliefs and rights of Fellows and patients

Staffing of accredited departments in anaesthesia (2014)

Staffing:

Process of acquiring, retaining and deploying a workforce of sufficient quality and quantity to perform effectively

Clinical support time:

Time spent performing duties other than direct patient care

30% of specialist time should be non-clinical, minimum of 1 session per week

Includes teaching, QA, research, CPD, managerial roles

Logbook of non-clinical activities to be kept

Course/conference leave count towards non-clinical time (excluding 1 session/wk)

Non-clinical time is usually averaged over a long period

Director…

Clinical support duties allocated by the Director

Time allocated needs to reflect level of non-clinical work

Ensures department functions safely and efficiently

Deputy director…

Assistant to the director

May be responsible for delegated tasks/areas

Supervisor of training

The on-site college representatives

Liaison person between college and trainees

Trainee

Specialist in training

Degree of service provision dictated by level or experience, rostering, subspecialty training needs

Should be assigned QA duties according to level of experience – non-clinical time for this to be provided

Minimum Staff numbers:

One FANZCA Specialist

2 FTE non-FANZCA specialists with equivalent training

1 FTE specialist per trainee

No more than 2 non-specialists (inc trainees) per FTE specialist

Calculating staff numbers:

Complex

Primary aim is the need to provide minimum number of specialists to supervise trainees

Unit of measure for work load calculation is the "session"

Recommended maximum for each FTE is 7 clinical session per week

SOTs allocated further session for non-clinical role

Introductory/Basic Trainees sessions are not to count towards departments staffing (i.e. supernumerary)

Advanced Trainees may have 3 sessions per week counted towards departments staffing – supervised at level 2-3

Provisional fellows may have 6 sessions per week counted

Calculate the number of weeks a staff member will be away for annual leave, courses, conferences

Department should be at full working capacity for 50 weeks per year

By J Dieterle, M Woolley, J McAlpine, M Ku, A Hollingworth

Fatigue and the Anaesthetist

27/2/09
PS43 (2007)

Introduction

Fatigue = sleep and rest deprivation that negatively impacts on performance

Fatigue impairs:

- vigilance
- responsiveness
- judgement

- 17 hours of wakefulness = blood alcohol of 0.05%
- 24 hours of wakefulness = blood alcohol of 0.1%
- high risk times: 0300 -> 0700 and 1300 -> 1600

Things to Do

- get adequate sleep regularly
- eat well
- sleep during afternoon before nights
- nap on nights
- don’t use coffee or stimulants
- when woken don’t rush -> need 15-30min to wake up
- have descent rostering
- don’t continue working if fatigued
- call for assistance if fatigued
- have some leisure activities
- take breaks during work
- have holidays

By J Dieterle, M Woolley, J McAlpine, M Ku, A Hollingworth

Training and practice of peri-operative cardiac ultrasound in adults

(2014)

Only practitioners who have completed or are undertaking supervised training should perform cardiac ultrasound

Only practitioners who have completed the training requirements should provide written formal reports without supervision

Goal directed studies:

1) **Point of care investigation that can be integrated with other clinical information to guide patient management**
2) **Typically qualitative in nature and address systolic function, filling volumes and pressures, valve function and other notable abnormalities (e.g. pericardial effusion)**
3) **Usually more limited that full comprehensive echocardiograms**
4) **An electronic record should be made and include patient demographics and time and date of the echo**
5) **A formal, written report should be provided by the proceduralist and entered into the clinical notes**

Comprehensive studies

1) **A standardized full echo study performed irrespective of the indication that provides quantitative data**
2) **2D imaging through at least two windows and utilizes spectral and colour Doppler analysis**
3) **TOE and TTE examinations should follow published international guidelines**
4) **Should be performed pre and post procedure when performed in the setting of cardiac surgery**
5) **Formal report should include…date/time/patient ID/indications/findings and be in the notes and archived**

Safety

1) **TOE has potentially fatal complications. Follow safe practices of TOE insertion and manipulation to avoid harm. Avoid if contraindicated.**
2) **Second clinician to monitor patients anaesthetic (may be required)**
3) **Institution must have adequate services to disinfect the probe after use. Must follow institutes published cleaning protocol**

Training

1) **Should cover cardiac anatomy, physiology and echo interpretation skills**

2) **Need to have experience conducting and reporting studies**
3) **At least 20 supervised goal directed studies**
4) **At least 20 unsupervised goal directed studies, later reviewed by supervisor**
5) **At least 50 further GDS with review as requested by trainee**
6) **50 comprehensive TTE or 50 TOEs or 30 TOEs and 30 TTEs**
7) **At least 50 more comprehensive unsupervised echos with later review**
8) **At least 100 more comprehensive studies with review on request**
9) **If training for TOE in cardiac anaesthesia then at least 50 of the TOEs should be intra-operative**
10) **50 TOEs/TTEs per year after training completed to maintain CPD requirements**

Knowledge base

1) **For Goal directed studies – a university certificate in echo or a fellowship in cardiac ultrasound for 6 months or equivalent**
    a. **Course should cover USS physics, cardiac anatomy, physiology and pathology**
2) **For comprehensive studies – a university diploma in echo or a fellowship in cardiac ultrasound for 12 months or US/British equivalent**
    a. **As above and interpretation/communication of findings**

Documentation

1) **Trainee to maintain a log book**
    a. **Case number and case mix**
    b. **Level of involvement of each echo**
    c. **Case reviews/QA sessions**
    d. **Courses and conferences attended**

Assessment

1) **Depends on form of training undertaken**
2) **May involve etxernal credentialing or formal assessment**

By J Dieterle, M Woolley, J McAlpine, M Ku, A Hollingworth

Health of Anaesthetists and Trainees

27/2/2009
PS49 – 2008

Introduction

- we generally keep good health
- we are prone to 'drugs, drink and depression'

Things to do

- have a GP for self and family
- don't self prescribe (accept for simple OTC medications)
- have consults about self in formal clinics
- have a list of resources available for well-being of doctors
- orientation program
- personal health related programs as a part of CME
- mentoring or buddy system
- regular review of roster to minimise fatigue
- debriefing and support post crises
- advise SOT and Clinical Director of any health problems that may affect work

By J Dieterle, M Woolley, J McAlpine, M Ku, A Hollingworth

Injectable Drugs in Anaesthesia

19/5/09
PS51 – 2009

Introduction

- drug error incidence = 1/135 anaesthetic
- significant harm to patients
- need to recognise and adopt techniques to minimise such events

General

- aim = give correct drug, to correct patient by correct route and record information accurately
- we should know physiology, pharmacology and how to manage complications
- take thorough drug history
- drugs administered by non-anaesthetists should have medical supervision and a written order
- write legibly
- good communication
- minimise distraction when drawing up
- adequate light

Purchasing

- purchasing and inventory should minimise drug error
- avoidance of look-a-like packaging
- changes to packaging must be widely communicated
- stocking of different concentrations should be avoided
- avoid need for dilution (pre-diluted)
- prefilled syringes

Storage (the anaesthetic workspace)

- tidy
- organised
- standardised
- emergency drug drawer
- look-alike ampoules -> store apart
- store in original packaging prior to drawing up
- appropriate trays

Labels

- labels should have agreed and clear writing
- pre-printed labels should be colour coded by drug class
- if labels not available -> permanent marker pen

Drawing up and checking drugs prior to Administration

- read label (check name and dose)

- regular checking for expired drugs
- label syringes appropriately
- draw up one drug @ a time and label
- if interrupted when drawing up a drug -> discard
- before administering check drug and dose with a second person or an automated device (always check intrathecal drugs with a second person)
- any one ampoule should be administered to only one patient

Storage during Anaesthesia

- time interval from drawing up and administering should be short
- store logically and orderly
- drugs with different routes should not be stored together
- emergency drugs should only be drawn up where there is time critical response -> otherwise can be given inadvertently, should be in separate tray, prefilled syringes might be beneficial

Maintenance of Accurate Records

- keep accurate records
- keep ampoules so drugs can be reconciled if problem develops
- discard ampoules once finished with

Infusion Drugs

- infusion pumps and syringe drivers should be standardised
- label patient end of the infusion
- caution of one way valves to avoid siphoning of infused drug

Transport of critically ill patients (2013)

General

1. **Requires accurate assessment and stabilization of the patient before transport**
2. **Level of care provided by transport must aim to at least equal that at the point of referral**

Organisation:

1) **Initiation of transfer**
    a. **Referral should be a simple process requiring a single phone call**
    b. **Should not be delayed if a patient is critical, accepting hospital to be arranged after dispatch**
2) **Communication/coordination**
    a. **Single coordinating clinician and nurse**
    b. **Constant means of communication between coordinator and retrieval team**
3) **Responsibility**
    a. **Clear chain of responsibility**
    b. **Clear handover from referral team to retrieval team to accepting team**
4) **Documentation**
    a. **Clear documentation of clinical state before, during and after transport, therapy given and any procedures**
5) **Governance**
    a. **Effective QA system**
    b. **Clinical research**
    c. **Risk management**
    d. **Education/training**
    e. **Credentialing/scope of clinical practice**

Staffing:

1) **Must be able to provide usual high level of care in any location**
2) **Consultants must be able to provide real time support to juniors**
3) **Constant communication possible**
4) **Knowledge of equipment**

5) **Dedicated team if inter-hospital transfer**

6) **Relieved of all other clinical duties if intrahospital transport**

7) **Training in mass casualty/hazard scenarios if pre-hospital carer**

8) **High vis and PPE provided**

Transport:

1) **Dictated by… illness, urgency, location, distance, weather, vehicle range and speed, transport team fatigue, aircraft landing facilities**

2) **Vehicle requirements…adequate room, lighting, power, suction, gas supply, communication, easy access, noise protection**

3) **Risks…low O2 partial pressure, rapid depressurization, limb swelling under casts, temperature extremes, acceleration/deceleration, vibration, motion sickness, air filled cavity expansion**

Equipment:

1) **Appropriate to the patient**

2) **Level of care must be maintained in transit**

3) **Equipment to be secured for transport**

4) **To include equipment for patient management and staff safety**

Monitoring:

1) **At least of the same level as at the referring hospital**

2) **Frequency of measurement dictated by patient clinical condition**

Training:

1) **New staff to undergo appropriate training and participate in supervised flights prior to independent care**

2) **Training should be regular and recurrent**

3) **All flight staff to remain up to date with education standards**

By J Dieterle, M Woolley, J McAlpine, M Ku, A Hollingworth

Handing over Anaesthetic Case

PS53 – 2013

Circumstances
- fatigue (eg prolonged anaesthesia)
- temporary relief
- permanent handover for remainder of anaesthetic
- handing over of care at end of an anaesthetic (PACU, ICU, HDU)

During Anaesthesia

- satisfied as to competence of relieving anaesthetist
- ideally patient stable and no foreseen adverse events are likely to occur
- past history and present condition
- anaesthetic details (airway, IV access, drugs used, fluid and pressor management, foreseeable problems)
- nature and stage of surgery
- check of monitoring, devices and infusions connected to patient
- documentation up to date
- post operative plan and destination
- surgical team notified
- anaesthetic team notified
- colleague has time to satisfy themselves with case and ask questions
- if temporary handover – staff will not significantly change Anaesthetic technique without liaising with primary Anaesthetist first (unless an emergency)

Handover at completion of Anaesthesia

- Anaesthetist responsible for ensuring that the patient recovers safely from surgery and anaesthesia in an area appropriate for that purpose
- Care of and responsibility for the patient is shared between nursing staff, anaesthetist and surgeon
- anaesthetist is responsible for recognising, managing and documenting adverse effects that may be related to the anaesthetic technique

Specific Anaesthetist Responsibilities

- responsible for safe transport of patient to PACU, HDU or ICU
- must provide a formal handover to suitable trained and qualified staff in PACU or ICU
- must provide specific advice regarding
    - obs and monitoring,
    - pain relief,
    - management of complications,
    - fluid and respiratory therapy,
    - residual regional anaesthetic block,
    - discharge expectations and ongoing care related to anaesthesia matters
- must be readily available to deal with any unexpected problem or ensure another suitable qualified medical practitioner is available
- ensure that there are plans for adequate care post PACU discharge

Statement on the minimum safety requirements for anaesthetic machines and workstations for clinical practice

2013:

Purpose:

1. Safe anaesthetic machines are essential to the provision of safe patient care.
2. all anaesthetic machines in clinical use in Australia and New Zealand should comply with Australian/ New Zealand standards “Medical electrical equipment - Particular requirements for safety - Anaesthetic systems” and “Anaesthetic machines - Non-electrical - For use with humans”, and other relevant national standards

Machine assessment and safety requirements:

All machines should be assessed at least once a year (really??, I tripled checked, and it’s indeed what the PS says) by specialist anaesthetist, or other person, with the required skill and technical knowledge. The assessment will result in 1 or more of these categories defined by specific course of action:

1. needs to be removed, or upgraded so to meet specified standard, if the following standards are not met: ie key safety and performance parameter:
    a. pin-indexed connections
    b. reserve oxygen supply
    c. non-interchangeable gas hose connectors to ensure correct gas supply
    d. pressure display of gases on front of the machine
    e. oxygen supply failure warning device on the machine, capable of alarming and cut off gas supplyes other than air/oxygen.
    f. If a gas flowmeter bank is present, oxygen must be the last gas to enter the common gas, and the oxygen flow knob must be first from left on the rotameter relative to other flow knobs.
    g. Only one gas flow control knob for each gas.
    h. Anti-hypoxic mixture device when nitrous oxide is available for use
    i. Vaporiser interlock system
    j. High pressure relief valve
    k. Life time maintenance
    l. high priority alarm for high airway pressure
    m. backup power supply for machine for >30mins independently
    n. protection cap/mechanism for main switch and emergency oxygen flush control
2. needs to be withdrawn from clinical use within 6 months (failed maintenance record)
    a. Maintenance record must be kept
    b. Maintenance history indicating problems that could threaten patient safety or meeting needs of current anaesthetic practice.
3. acceptable for clinical use

Summary:

- all anaesthetic machines in clinical use in Australia and New Zealand should comply with prescribed Australian/New Zealand standards
- key safety and performance parameters must be met, otherwise remove the machine, or upgrade it until parameters are met
- Mainenance of machine must be done regularly (frequency not stated in current PS)

Minimum Facilities for Safe Administration of Anaesthesia in Operating Suites & Other Locations

General Principles

- Need appropriate
  - staff = medically qualified personnell
  - facilities - every pt should have pre-anaesthetic consultation
  - equipment - appropriate monitoring must occur

Staff

- must be an anaesthetic assistant
- assistance to position patient
- all equipment serviced by qualified people

Areas where Anaesthetics Given

Equipment

- 1 specialist anaesthetist to advise on anaesthetic equipment
- person resonsible to upkeep equipment
- In each location:
  - O2 & medical air flow meters
  - working contents of an Anaesthetic machine eg breathing circuits, vaporisers, BMV, suction etc
  - access to a DI trolley
  - scavenging systems
  - PPE
  - All standard airway kit eg OP, NPs, ETTs, blades
  - monitoring equipment eg bp cuffs, sphygs, stethoscopes
  - IV access equipment incl pressure bags
  - sharps disposal
- Ancillary stuff also needed:
  - defib
  - ICDs & underwater seals
  - humidifactioj systems
  - equipment to cool patient actively
  - good lighting
  - emergency power outlets
  - telephones
  - fridges
  - min 3 people to transfer pts on boards

Drugs

- Need standard anaesthetic drugs
- drugs to treat life threatening anaesthetic complications ie emergency drugs eg ↑ICP, pulmon oedema, ↓bp, arrhythmias etc
- mechanism to ensure drugs are up to date and in stock
- dantrolene - minimum available:
  - small hospital = 24 x 20mg ampules & ability to get more quickly
  - large or isolated hospital = 36 x 20mg

Cleaning

- cleaning of equipment
- documented servicing of anaesthesia delivery systems -
  - ↳ if no manufacturer recommendation then must service machines at least x2/yr
- if maintenance to gas system - it must not be used unless fully tested to national standards

PACU

- see PS4

Specific Locations

Delivery Suite

- midwifes must be trained & competent in epidural management
- N2O systems - must deliver at least 30% O2
- suction in every room available separate to NeoPuff
- separate O2 for mother & neonate
- Neonatal resus equip: O2, suction, intubation equip, IV aceess kit for neonates, warming system

ECT

- breathing system capable of
  - 100% O2
  - SV or IPPV
  - O2 stores - piped or cylinders with pressure gauge & back up cylinder

Dental Surgeries

- dental chair

Radiology

- Appropriate monitoring equipment
- consideration of need for all anaesthetic equipment in remote space limited location

Duties of the Specialist Anaesthetist (2014)

Clinical:

1) **Provision of anaesthesia and peri-operative care**
2) **Pre-operative assessment and preparation of patients for surgery**
3) **Supervision of trainees and other staff**
4) **Supervision of patients in PACU**
5) **Provision of post-op are especially pain management**
6) **DA duties**
7) **Management of anaesthesia in the day surgery unit**
8) **Organisation and clinical management of acute pain services**
9) **Acute resuscitation services and retrieval services**
10) **Management of patients in the intensive care unit with there is no intensive care specialist available**
11) **Supervision and management of CPB**
12) **Clinical duties in the hyperbaric unit**
13) **Management of anaesthesia in remote locations**

Clinical support duties:

1) **Managerial duties in pre-op unit/PACU/pre-anaesthesia**
2) **Educational activities for anaesthetists/techs/trainees/med students/nurses**
3) **Peer review and QA sessions**
4) **Continuing medical education**
5) **Contributions to activities of professional associations**
6) **Health advocate**
7) **Participation in research**
8) **Participation in programmes promoting the specialty**

Quality Assurance

PS58-2012

Introduction
- An organized process that assesses and evaluates health services to improve practice or quality of care
- Objective is to ensure that high standards of clinical practice are maintained through regular assessments. The results of such assessments should be evaluated and actioned as necessary
- all anaesthetists and trainees should participate in QA programs
- QA programs must evaluate clinical care to ensure consistency with accepted professional standarts (incl. college professional docs)

Process

Planning
- careful design and preparation
- defining topic to be evaluated
- data to be collected
- methods to collect and analyse data

Implementation

Involves:
- Collection and analysis of the data
- Review of results
- Determining action to be taken

in order to:
- Monitor and evaluate quality and appropriateness of patient care
- Identification of areas of deficiency or risk
- Implement and monitor of changes where necessary

Review
- Monitoring of the outcome of changes introduced from implementation with further survey in future "closing the loop"

Setting standards
- Writing the improvements achieved into new official regulations, guidelines or standards

Quality Assurance Programs
- anaesthesia service structure and performance (staff, physical facilities, management)
- performance evaluation according to predetermined criteria
- compliance with guidelines, policies or protocols
- critical incidents
- risk management (identification, assessment and control)
- peer reviews (M&M meetings, case review, practice review)
- patient satisfaction surveys
- root cause analysis of system errors
- reporting to external QA programs
- audit of QA programs

Resources
- QA coordinator for each anaesthetic department
- Sufficient rersources of people, time and support should be available for all anaesthetists and trainees to participate fully in QA programs

Roles in Anesthesia and perioperative care

(2013)

Principles:

1) **Structure of anaesthesia and perioperative care must support safe, high quality care**
    a. **Patients factors are more predictive of poor outcome than surgical factors**
    b. **Patient optimisation leads to better patient outcomes**
    c. **Effective perioperative risk assessment and post-op care planning significantly improve patient outcomes**
    d. **Patient optimization is medical lead to ensure patient safety**
2) **Provision of anaesthesia is a medical role**
    a. **Minimum of 7 years post-graduate training and professional development**
    b. **In certain circumstances anaesthesia/sedation can be provided by a non anaesthetist, e.g. rural GPs**
    c. **ANZCA supports delegation of roles from specialist to non-specialist doctor only, anaesthetic provision is a medical role only**
3) **Innovation should be based on delegation not substitution of roles**
    a. **ANZCA has an active role in the development of guidelines for non-specialists administering anaesthetic/ sedation**
    b. **Properly implemented task delegation can optimise rather than duplicate skills**
    c. **Peri-operative delegation of tasks, e.g. pre-assessment to non-specialist has been shown to improve efficiency and resource utilisation**
4) **Anaesthesia and perioperative care require a team of highly skilled health professionals**
    a. **Anaesthesia involves interaction between multiple disciplinary specialists**
    b. **Skilled assistance with anaesthesia specific training reduces patient harm**
    c. **Inadequate assistance shown to increase patient harm**
    d. **Both technical and non-technical skills are vital to patient care**
    e. **Development of new roles requires training of team members to develop necessary skills required**
5) **New or extended roles in anaesthesia an perioperative care should be developed implemented and evaluated in a systematic and consistent way**
    a. **New roles must be based on sound evidence using a collaborative, consultative and transparent process**
    b. **Expansion of roles must…**
        i. **Result in improved patient care/outcome**
        ii. **Be developed in response to specific and identified needs**
        iii. **Be sustainable**

iv. **Involve training institutions/employers**

v. **Be supported by clear task guidelines and role definition**

vi. **Have clear accountability and lines of communication**

vii. **Follow a legal/regulatory framework to set out scopes of practice**

Summary

New/expanded roles must be evidence based, needs based, sustainable, lead to improved patient outcome and follow clear legal/regulatory frameworks

Guidelines on the perioperative management of patients with suspected or proven hypersensitivity to chlorhexidine

2015 – endorsed by ANZAAG (Anaesthetic Allergy Group)

Chlorhexidine (1:6-Di-4'-Chlorophenyldiguanidohexane)

- broad-spectrum antiseptic
- many applications include, but are not limited to, antiseptic solutions and gels for the disinfection of skin and in lubricants for IDC insertion, impregnated into central venous catheters, dressings, surgical drapes and other medical devices. It is also widely available in the community eg. antiseptic hand rubs, mouthwashes, toothpastes and throat lozenges.
- Hypersensitivity to chlorhexidine has an unknown incidence, but is currently still rare.
- Careful planning and precautions are necessary to prevent harm to patients with known chlorhexidine hypersensitivity.

- Ready identification of all products containing chlorhexidine is difficult with non- uniform standards of labelling. Frequent changes of products.

Suspected cases:

- Patients suspected to have perioperative anaphylaxis, particularly where the reaction was delayed in relation to induction of anaesthesia or intravenous drug administration, may have chlorhexidine hypersensitivity.
- Alternatives to chlorhexidine should be used.
- If hospitalisation is elective and time permits, referral to a testing centre is advisable.

DEVELOPMENT OF A CHLORHEXIDINE PRODUCT REGISTER

- Prevention of exposure requires the ability to identify all clinical products containing chlorhexidine, which is difficult and Clinician's need to be vigilant.
- Healthcare facilities are recommended to keep a register of products that contain chlorhex, so to allow clinical staff to make choices to use products without chlorhex.
- However, even if a product is not on the register, it's not an absolute guarantee that the product is chlorhex free and clinical staff should still check the product they use when there' concern of chlorhex hypersensitivity.
- Consideration should be given to develop a 'chlorhex free box', which contains: chlorhex free product register and alternative product to use.

AVOIDANCE OF EXPOSURE IN ALLERGIC PATIENTS

- use clear sign on patient's door eg. 'chlorhex allergy', 'chlorhex anaphylaxis' & on patient's bed in case they go somewhere else eg. Radiology.
- use single room for patient (avoid exposure for this patient, avoid disadvantage to lack of this product for other patient).

Treatment:

- in Anaesthetic setting, the guidelines of the Australian and New Zealand Anaesthetic Allergy Group (ANZAAG) and ANZCA should be followed
- in other setting, use the 'Australian Prescriber Wallchart "Anaphylaxis: Emergency management for health professionals". These guidelines are endorsed by Australasian Society of Clinical Immunology and Allergy, Colleges of Physicians, GPs, Ems, Radiologists, Dentists etc.

FOLLOW-UP OF SUSPECTED CASES OF CHLORHEXIDINE HYPERSENSITIVITY

- following event, the possible product, route of exposure, timing of exposure should be be noted
- refer to testing centre
- patients education once case confirmed, re: product to avoid, increase vigilance re: widespread use of chlorhex in hospital and community & medic-alert bracelet to wear.