

Exposure Prone Procedures

Cautionary Note

Individual working practices may vary between health care workers. Advice for one health care worker may not always be applicable to another. This list must therefore be interpreted with caution, as it provides examples only and is not exhaustive.

Please note that these are only examples and do not obviate the need for a full risk assessment, including the procedures likely to be undertaken by a health care worker whose practice is restricted in a particular post; the way in which they would be performed by that individual; and the context in which they would operate e.g. colleagues available to take over if an exposure prone procedure becomes necessary.

1. Accident and Emergency (A&E)

A&E staff that is restricted from performing exposure prone procedures (EPPs) should not provide pre-hospital trauma care.

These staff should not physically examine or otherwise handle acute trauma patients with open tissues because of the unpredictable risk of injury from sharp tissues such as fractured bones. Cover from colleagues who are allowed to perform EPPs would be needed at all times to avoid this eventuality.

Other EPPs which may arise in an A&E setting would include:

- rectal examination in presence of suspected pelvic fracture;
- deep suturing to arrest hemorrhage;
- internal cardiac massage.

(See also **Anesthetics, Biting, Paramedics and Resuscitation**)

2. Anesthetics

Procedures performed purely percutaneously are not exposure prone, nor have endotracheal intubation nor the use of a laryngeal mask been considered so.

The only procedures currently performed by anesthetists who would constitute EPPs are:

- the placement of portacaths (very rarely done) which involves excavating a small pouch under the skin and may sometimes require maneuvers which are not under direct vision;
- the insertion of chest drains in accident and emergency trauma cases such as patients with multiple rib fractures.

The insertion of a chest drain may or may not be considered to be exposure prone depending on how it is performed. Procedures where, following a small initial incision, the chest drain with its internal trocar is passed directly through the chest wall (as may happen e.g. with a pneumothorax or pleural effusion) and where the lung is well clear of the chest wall, would not be considered to be exposure prone. However, where a larger incision is made, and a finger is inserted into the chest cavity, as may be necessary e.g. with a flail chest, and where the health care worker could be injured by the broken ribs, the procedure should be considered exposure prone.

Modern techniques for skin tunneling involve wire guided techniques and putting steel or plastic trochars from the entry site to the exit site where they are retrieved in full vision. Therefore skin tunneling is no longer considered to be exposure prone (see also **Arterial cutdown**).

3. Arterial Cutdown

Although the use of more percutaneous techniques has made arterial or venous cutdown to obtain access to blood vessels an unusual procedure, it may still be used in rare cases. However, as the operator's hands are always visible, it should no longer be considered exposure prone.

4. Biting

Staff working in areas posing a significant risk of biting should not be treated as performing EPPs. Blood in the oral cavity - risk proportionate to the volume of blood;

- Broken skin due to the bite;
- Bite associated with previous injury i.e. non-intact skin;
- Biter deficient in anti-HIV salivary elements (IgA deficient).

Based on the available information, it can only be tentatively concluded that even though there is a theoretical risk of transmission of a blood borne virus from an infected health care worker to a biting patient, the risk remains negligible. The lack of information may suggest that this has not been perceived to be a problem to date, rather than that there is an absence of risk.

Infected health care worker to a biting patient, individuals infected with blood-borne viruses should not be prevented from working in or training for specialties where there is a risk of being bitten.

Biting poses a much greater risk to health care workers than to patients. Therefore employers should take measures to prevent injury to staff, and health care workers bitten by patients should seek advice and treatment, in the same way as after a needlestick injury.

5. Bone Marrow transplants

Not exposure prone.

6. Cardiology

Percutaneous procedures including angiography/cardiac catheterization are not exposure prone. Implantation of permanent pacemakers (for which a skin tunneling technique is used to site the pacemaker device subcutaneously) may or may not be exposure prone. This will depend on whether the operator's fingers are or are not concealed from view in the patient's tissues in the presence of sharp instruments during the procedure (see also **Arterial cutdown**).

7. Chiropractors

see **Podiatrists**

8. Dentistry and orthodontics (including hygienists)

The majority of procedures in dentistry are exposure prone, with the exception of:

- examination using a mouth mirror only;
- taking extra-oral radiographs;
- visual and digital examination of the head and neck;
- visual and digital examination of the edentulous mouth;
- taking impressions of edentulous patients; and
- the construction and fitting of full dentures.

However, taking impressions from dentate or partially dentate patients would be considered exposure prone, as would the fitting of partial dentures and fixed or removable orthodontic appliances, where clasps and other pieces of metal could result in injury to the dentist.

9. Ear, Nose and Throat Surgery (Otolaryngology)

ENT surgical procedures generally should be regarded as exposure prone with the exception of simple ear or nasal procedures, and procedures performed using endoscopes (flexible and rigid) **provided fingertips are always visible**. Non-exposure prone ear procedures include stapedectomy/stapedotomy, insertion of ventilation tubes and insertion of a titanium screw for a bone anchored hearing aid.

10. Endoscopy

Simple endoscopic procedures (e.g. gastroscopy, bronchoscopy) have not been considered exposure prone. In general there is a risk that surgical endoscopic procedures (e.g. cystoscopy, laparoscopy - see below) may escalate due to complications which may not have been foreseen and may necessitate an open EPP. The need for cover from a colleague who is allowed to perform EPPs should be considered as a contingency (see also Biting).

11. General Practice

See **Accident and Emergency, Biting, Minor Surgery, Midwifery/Obstetrics, Resuscitation**

12. Gynecology (see also Laparoscopy)

Open surgical procedures are exposure prone. Many minor gynecological procedures are not considered exposure prone, examples include dilatation & curettage (D& C), suction termination of pregnancy, colposcopy, surgical insertion of depot contraceptive implants/devices, fitting intrauterine contraceptive devices (coils), and vaginal egg collection **provided fingers remain visible at all times when sharp instruments are in use.**

Performing **cone biopsies** with a scalpel (and with the necessary suturing of the cervix) would be exposure prone. Cone biopsies performed with a loop or laser would not in themselves be classified as exposure prone, but if local anesthetic was administered to the cervix other than under direct vision i.e. with fingers concealed in the vagina, then the latter would be an exposure prone procedure.

13. Hemodialysis/Hemofiltration

See **Renal Medicine**

14. Intensive Care

Intensive care does not generally involve EPPs on the part of medical or nursing staff

15. Laparoscopy

Mostly non-exposure prone because fingers are never concealed in the patient's tissues. Exceptions are, exposure prone if main trochar inserted using an open procedure, as for example in a patient who has had previous abdominal surgery. Also exposure prone if rectus sheath closed at port sites using J-needle, and fingers rather than needle holders and forceps are used.

In general there is a risk that a therapeutic, rather than a diagnostic, laparoscopy may escalate due to complications which may not have been foreseen necessitating an open exposure prone procedure. Cover from colleagues who are allowed to perform EPPs would be needed at all times to avoid this eventuality.

16. Midwifery/Obstetrics

Simple vaginal delivery, amniotomy using a plastic device, attachment of fetal scalp electrodes, infiltration of local anesthetic prior to an episiotomy and the use of scissors to make an episiotomy cut are not exposure prone.

The only exposure prone procedures routinely undertaken by midwives are repairs following episiotomies and perineal tears: category 1 in the case of first degree lacerations; category 2 in the case of second, third and fourth degree lacerations. Repairs of third and fourth degree tears are normally undertaken by medical staff that may include general practitioners assisting at births in a community setting.

17. Minor Surgery

In the context of general practice, minor surgical procedures such as excision of sebaceous cysts, skin lesions, cauterization of skin warts, aspiration of bursa, cortisone injections into joints and vasectomies do not usually constitute EPPs.

18. Needle stick/Occupational Exposure to HIV

Health care workers need not refrain from performing exposure prone procedures pending follow up of occupational exposure to an HIV infected source. The combined risks of contracting HIV infection from the source patient, and then transmitting this to another patient during an exposure prone procedure is so low as to be considered negligible.

However in the event of the worker being diagnosed HIV positive, such procedures must cease in accordance with this guidance.

19. Nursing

General nursing procedures do not include EPPs. The duties of operating theatre nurses should be considered individually. Theatre scrub nurses do not generally undertake exposure prone procedures. However, it is possible that nurses acting as first assistant may perform EPPs (see also **Accident and Emergency, Renal Medicine/Nursing, and Resuscitation**).

20. Obstetrics/Midwifery

See **Midwifery/Obstetrics**. Obstetricians perform surgical procedures, many of which will be exposure prone according to the criteria.

21. Operating Department Assistant/Technician

General duties do not normally include exposure prone procedures.

22. Ophthalmology

With the exception of orbital surgery which is usually performed by maxillo-facial surgeons (who perform many other EPPs), routine ophthalmological surgical procedures are not exposure prone as the operator's fingers are not concealed in the patient's tissues. Exceptions may occur in some acute trauma cases, which should be avoided by EPP restricted surgeons.

23. Optometry

The training and practice of optometry does not require the performance of EPPs.

24. Orthodontics

See **Dentistry and orthodontics (including hygienists)**

25. Orthopedics

Exposure prone procedures

- Open surgical procedures;
- Procedures involving the cutting or fixation of bones, including the use of K-wire fixation and osteotomies;

- Procedures involving the distant transfer of tissues from a second site (such as in a thumb reconstruction);
- Acute hand trauma;
- Nail avulsion of the toes for in-growing toenails and Zadek's procedure (this advice may not apply to other situations such as when nail avulsions are performed by podiatrists).

Non-exposure prone procedures

- Manipulation of joints with the skin intact;
- Arthroscopy, provided that if there is any possibility that an open procedure might become necessary, the procedure is undertaken by a colleague able to perform the appropriate open surgical procedure;
- Superficial surgery involving the soft tissues of the hand;
- Work on tendons using purely instrumental tunneling techniques that do not involve fingers and sharp instruments together in the tunnel;
- Procedures for secondary reconstruction of the hand, provided that the operator's fingers are in full view;
- Carpal tunnel decompression provided fingers and sharp instruments are not together in the wound;
- Closed reductions of fractures and other percutaneous procedures.

26. Pediatrics

Neither general nor neonatal/special care pediatrics has been considered likely to involve any EPPs. Pediatric surgeons do perform EPPs (see also **Arterial outflow**).

27. Paramedics

In contrast to other emergency workers, a paramedic's primary function is to provide care to patients. Paramedics do not normally perform EPPs. However, paramedics who would be restricted from performing EPPs should not provide pre-hospital trauma care. This advice is subject to review as the work undertaken by paramedics continues to develop (see also **Accident & Emergency, Biting and Resuscitation**).

28. Pathology

In the event of injury to an EPP restricted pathologist performing a post mortem examination, the risk to other workers handling the same body subsequently is so remote that no restriction is recommended.

29. Podiatrists

Routine procedures undertaken by podiatrists who are not trained in and do not perform surgical techniques are not exposure prone. Procedures undertaken by podiatric surgeons

include surgery on nails, bones and soft tissue of the foot and lower leg, and joint replacements. In a proportion of these procedures, part of the operator's fingers will be inside the wound and out of view, making them exposure prone procedures (see also Orthopedics).

30. Radiology

All percutaneous procedures, including imaging of the vascular tree, biliary system and renal system, drainage procedures and biopsies as appropriate, are not EPPs (see also **Arterial cutdown**).

31. Renal Medicine

In procedures performed now, the operator's fingers remain visible all the time during the procedure. Neither hemofiltration nor hemodialysis constitutes exposure prone procedures.

The working practices of those staff who supervise hemofiltration and hemodialysis circuits do not include EPPs. (Different guidance applies for hepatitis B infected health care workers.)

32. Resuscitation

Resuscitation performed wearing appropriate protective equipment does not constitute an EPP.

33. Surgery

Open surgical procedures are exposure prone. This applies equally to major organ retrieval because there is a very small, though remote, risk that major organs retrieved for transplant could be contaminated by a health care worker's blood during what are long retrieval operations while the patient's circulation remains intact. It is possible for some contaminated blood cells to remain following pre-transplantation preparatory procedures and for any virus to remain intact since organs are chilled to only 10°C (see also **Laparoscopy, Minor Surgery**).

34. Volunteer health care workers (including first aid)

The important issue is whether or not an infected health care worker undertakes EPPs. If this is the case, this guidance should be applied, whether or not the health care worker is paid for their work.