Standard Operating Procedure

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Foreword by the Minister for Health and Children

Achieving excellence in care for the patient is a key concern of all involved in health care. Those who work in the emergency ambulance service, providing care for the most vulnerable patients, are faced with the task of providing high quality care to patients in challenging and often difficult conditions.

The publication of these Pre-Hospital Standard Operating Procedures, developed by the Medical Advisory Group of the National Ambulance Advisory Council, draw on the current best evidence in key areas of concern to those working in the emergency ambulance service to provide a clear approach to assessment and treatment. The SOPs are also an important step in developing the focus on clinical effectiveness in pre-hospital care. The Standard Operating Procedures will support and strengthen ongoing developments in training for emergency medical technicians and will prove a valuable resource to all those involved in the provision of emergency care.

Equity, Quality of Service and Accountability are key principles underpinning the delivery of health services in Ireland. I have no doubt that these SOPs will be of great benefit in furthering these objectives in the field of pre-hospital care.

Brian Cowen TD  
Minister for Health and Children
Preface to the SOP booklet

Like all other sectors of the Irish healthcare system, the mission of the statutory ambulance services must be to deliver the best quality care to patients in need in the most timely fashion.

Ambulance services in Ireland have undergone much change and development since the publication of the Ambulance Services Review in 1993. The publication of national Standard Operating Procedures for a range of important clinical issues is a key step in progressing the goals of the services. The SOP's have been compiled using the best available evidence; they represent the first steps in a living document that will include new SOP's developed over time. They will also include replacement SOP's as new evidence becomes available.

Standard Operating Procedures do not represent comprehensive statements of all there is to know on this topic; nor are they presented as teaching guides. Their purpose is to offer EMT's working in the ambulance services an easy-access reminder of the key issues and procedures to be addressed when dealing with specific clinical problems. The presentation of the material is clear, unambiguous and durable. The SOP's will provide a means of refreshing the EMT's existing knowledge together with an effective means of reviewing the care of individual patients.

The material has been compiled and produced by the Medical Advisory Group of the National Ambulance Advisory Council. The multi-disciplinary group has drawn on the experience and expertise of doctors, EMT's, nurses and others in developing a consensus statement on each of these issues.

Each SOP represents the current best evidence for care in this area. It is the responsibility of individual care providers to ensure that the SOP version in use by them has been updated. The format of the booklets should facilitate easy replacement of updated or additional SOP's.

This material - and the ongoing monitoring of SOP's to update existing versions - represents a substantial body of work for all of those involved, particularly Ms. Julie Woods, NAAC Administrative Officer. I am most grateful to the members of the Medical Advisory Group, the Pre-Hospital Care & Training Standards Sub-Committee and the National Ambulance Advisory Council for their expertise and support.

Professor Gerard Bury
Chairman, Pre-Hospital Care & Training Standards Sub-Committee
Standard Operating Procedure

- Safety
- Headings
- Check / watch out for
- Go to SOP x / Return to SOP x / From SOP x / Complete SOP x
- Refer to SOP x
- Vital signs/ treatment
- Crew instructions
- Transport to appropriate A&E
Standard Operating Procedure SOP 1a

Basic Life Support - Adult - 8 years and older

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Establish Responsiveness

NO

Airway Open

YES

Maintain

NO

Head tilt / Chin lift
Jaw-thrust
Suction/OPA/NPA

NO

If none or inadequate (>30 or <10)

YES

Breathing Check (3-5secs)

If adequate 100% O₂
See SOP 13a

NO

Ventilate x2 with 100% O₂
See SOP 13a
If obstructed

YES

Circulation Check carotid pulse (5-10secs)

YES

Go to SOP 4a
SOP 11a

NO

Go to SOP 2a

Chest compressions
Appropriate landmark/method/depth/rate and ratio

YES

Breaths
Initial - 2 breaths (1.5-2 seconds per breath)
Subsequent / Rescue Breathing - 12 breaths per minute

Compressions
Landmark - lower half of sternum
Method - heel of one hand, other hand on top
Depth - 1.5 - 2 inches
Rate - 80 - 100 per minute
Ratio - compressions/ventilations
Single crew 15:2
Double crew 5:1
Standard Operating Procedure SOP 1b

Basic Life Support - Child 1 - 8 years

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Establish Responsiveness

Go to SOP 4b

NO

Head tilt - Chin-lift / Jaw-thrust
Suction / OPA/NPA

Airway Open

YES

Maintain

NO

Ventilate x2 with 100% O₂
See SOP 13a

If obstructed

If none or inadequate

Breathing Check (3-5secs)

YES

If adequate 100% O₂
See SOP 13a

NO

Circulation
Check carotid pulse (5-10secs)

YES

Go to SOP 1b

NO

Chest compressions
Appropriate landmark/method/deepth/rate and ratio

Transport to appropriate A&E

Go to SOP 15a

Breaths
- Initial - 2 breaths (1-1.5 seconds per breath)
- Subsequent / Rescue Breathing - 20 breaths per minute

Compressions
- Landmark - lower half of sternum
- Method - heel of one hand
- Depth - 1-1.5 inches
- Ratio - 100 per minute
- Ratio - compressions/ventilations 5:1
Standard Operating Procedure

Basic Life Support - Infant 0 - 12 months

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Go to SOP 4b

Establish Responsiveness

YES

NO

Airway
Open

Maintain

YES

Breathing
Check (3-5secs)

If adequate 100%O₂
See SOP 13a

NO

Ventilata x2
with 100% O₂
See SOP 13a

If none or inadequate

if obstructed

Go to SOP 2c

If none or inadequate (< 60bpm)*

Go to SOP 4b

Circulation
Check brachial pulse (5-10secs)

YES

NO

Chest compressions
Appropriate landmark/method/depth/rate and ratio

Transport to appropriate A&E

Go to SOP 15a

Breaths
Initial - 2 breaths (1-1.5 seconds per breath)
Subsequent / Rescue Breathing - 20 breaths per minute

* Circulation
<60bpm
Chest compressions are indicated in an infant if the heart rate is less than 60 beats per minute.
- This is an advanced technique suitable only for EMTs / medical personnel
- Accurate clinical assessment is essential

Compressions
Landmark - Midline of the sternum, 1 finger width below an imaginary line drawn between the infant's nipples
Method - 2 fingers (middle and ring finger)
Depth - 0.5 - 1 inch
Rate - at least 100 per minute
Ratio - compressions / ventilations 5:1
Standard Operating Procedure  

Foreign Body Airway Obstruction - Adult (complete obstruction)
Conscious becomes unconscious / Found unconscious

Take universal infection control precautions

**Flowchart Diagram**

- From SOP 4a
  - Complete airway obstruction
    - Cannot speak, cough or breathe
      - Conscious patient lying down
      - Conscious patient sitting or standing
        - Give abdominal thrusts (chest thrusts if pregnant or obese)
          - Perform Heimlich maneuver (chest thrusts if pregnant or obese)
            - Repeat until effective or victim becomes unconscious
              - Obstruction cleared
                - Return to SOP 4a
              - Ventilate x 2 with 100% O2
                - See SOP 13a
                - Return to SOP 4a / 1a
                  - Return to SOP 4a / 1a
                    - Transport to appropriate A&E
                      - Go to SOP 15a
            - If still obstructed
              - Reposition head and re-attempt to ventilate x 1
            - If still obstructed
              - Give up to 6 abdominal thrusts
                - Repeat from step 1. x 2 only (on scene)
Standard Operating Procedure

Foreign Body Airway Obstruction - Child 1 - 8 years (complete obstruction)
Conscious becomes unconscious / Found unconscious

Take universal infection control precautions

**Complete airway obstruction**
Cannot speak, cough or breathe

- Conscious patient lying down
- Conscious patient sitting or standing

- Give abdominal thrusts
- Perform Heimlich maneuver

**Becomes unconscious / Found unconscious**

1. Perform tongue jaw lift and only if you see object perform finger sweep to remove it
2. Open airway
3. Try to ventilate with BVM
   - If still obstructed
     - Reposition head and re-attempt to ventilate x 1
4. Give up to 5 abdominal thrusts

- Repeat from step 1, x 2 only (on scene)

**Obstruction cleared**

- Ventilate x 2 with 100% O₂
  - See SOP 13a

- Return to SOP 4b / 1b

- Go to SOP 15a

**Transport to appropriate A&E**

- Return to SOP 4b
Foreign Body Airway Obstruction - Infant 0 - 12 months (complete obstruction)
Conscious becomes unconscious / Found unconscious

Take universal infection control precautions

**From SOP 4b**

- Complete airway obstruction
  - Cannot cry, cough or breathe
  - Give up to 5 back blows and 5 chest thrusts

**From SOP 1c**

- Becomes unconscious / Found unconscious
  - 1. Perform tongue jaw lift and only if you see object perform finger sweep to remove it
  - 2. Open airway
  - 3. Try to ventilate with BVM
    - If still obstructed
      - Reposition head and re-attempt to ventilate x 1
  - If still obstructed
  - 4. Give up to 5 back blows and 5 chest thrusts
  - Repeat from step 1. x 2 only (on scene)

- Obstruction cleared
  - Ventilate x 2 with 100% O₂
    - See SOP 13a
  - Obstruction cleared
    - Return to SOP 4b

- Return to SOP 1b / 1c

- Transport to appropriate A&E

- Go to SOP 15a
Standard Operating Procedure  

Cardiac Arrest - Advisory External Defibrillator - Adult

Take universal infection control precautions

Scene safety
Scene survey
Scene situation

Verify cardiac arrest
No pulse or respirations
Continue CPR (SOP 1a) until defibrillation pads are attached

Stop CPR - ascertain rhythm - press analyse

**Shock advised**
VF or VT

- Shock 1-200 joules
- Ascertain rhythm - VF or VT continuous - press "analyse"
- Shock advised: Shock 2-200 joules
- Ascertain rhythm - VF or VT continuous - press "analyse"
- Shock advised: Shock 3-360 joules
- Check pulse - No pulse
- 1 minute of CPR
- Check pulse
- Ascertain rhythm - VF or VT continuous - press "analyse"
- Shock advised
- Continue with 3 stacked shocks followed by 1 minute of CPR x 3 times MAX - 12 shocks

**No shock advised**
Asystole

- 1 minute of CPR
- Check pulse - No pulse
- Ascertain rhythm - Asystole continuous - press "analyse"
- No shock advised
- 1 minute of CPR
- Check pulse - No pulse
- Ascertain rhythm - Asystole continuous - press "analyse"
- No shock advised
- CPR

**No shock advised**
PEA

- 1 minute of CPR
- Check pulse - No pulse

Transport to appropriate A&E

- Transport to appropriate A&E
- Go to SOP 15a

Notes
1. Time of arrival at patient to first shock must not exceed 80 seconds
2. If continuous VF, transport to hospital following 12 shocks-CPR on route
3. If return to spontaneous pulse monitor and transport to hospital
4. Provide 100% O2
5. Advanced Cardiac Life Support - follow directions of ACLS provider on scene
Primary Survey - Adult

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Establish Responsiveness/ Unresponsiveness

NO

Airway
Open, C-Spine Control

YES

Maintain

Check if adequate Manage major chest injuries
100% O2
See SOP 13a

NO

Breathing
Check

YES

Go to SOP 1a & SOP 3a

NO

Go to SOP 7a

NO

Circulation
Check

YES

At risk?

Go to SOP 2a

C-Spine

NO

YES

Arrest major haemorrhage

Determine level of consciousness

A.V.P.U.

YES

Treat life threatening injuries ONLY

Expose
Check obvious injuries

Transport to appropriate A&E

C or U

Decision
C.U.P.S.

P or S

Vital signs
Pulse, BP, respirations, breath sounds, pupils, Cap. refill

To SOP 5a

C = Critical, U = Unstable, P = Potentially Unstable, S = Stable
Primary Survey - Child (Birth to 12 years)

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Establish Responsiveness/Unresponsiveness

Airway
Open, C-Spine Control

Breathing Check

Circulation Check

C-Spine At risk?

Determine level of consciousness
A.V.P.U.

Exposure
Check obvious injuries

Decision C.U.P.S.

Transport to appropriate A&E

C, U or P

Go to SOP 15a

Vital signs (See Paeds. Values)
Pulse, BP, respirations, breath sounds, pupils, Cap. refill

To SOP 5b

C = Critical, U = Unstable, P = Potentially Unstable, S = Stable
Standard Operating Procedure  

Secondary Survey - Adult

Take universal infection control precautions

NB - Examine/palpate all areas for bleeding, pain, deformity and impaled objects
Secondary Survey - Child (Birth - 12 years)

Take universal infection control precautions

**NB** - Examine/palpate all areas for bleeding, pain, deformity and impaled objects

**NB** - Remember to keep talking to the child and parents
Standard Operating Procedure SOP 6a

Trauma assessment

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Seek markers for multi-system trauma
- Evidence of high energy impact
- Ejection of patient
- Falls from a height
- Pedestrian hit @ 20mph or more
- Any child as pedestrian or cyclist struck by a motor vehicle

Go to SOP 4a / 4b

If any of the following present after Primary Survey
A - Airway is still compromised
B - Respiratory distress i.e. rate >30 or <10’
C - Distal pulse absent
   BP <90 systolic*
   Signs and symptoms of uncompensated shock
D - Unresponsive to voice or GCS <12
E - Penetration of head, abdo., neck, groin, chest, 2 proximal long bone #’s
   Extensive burns on face or trunk (>15%)
   Paediatric: burns >10% BSA or any burns to face
   * See Paediatric Values

Go to SOP 5a / 5b

Transport to appropriate A&E

Complete body immobilisation
100% oxygen
See SOP 13a
Minimal time on scene

Rapid transport to appropriate A&E

Go to SOP 15a

NO

Go to SOP 15a
Standard Operating Procedure

Spinal Immobilisation - Decision Tree

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Indications for spinal immobilisation

Consider mechanism e.g.
1. Motor vehicle incidents incorporating one or more of the following:
   - Bull's eye windshield
   - Vehicle on its side
   - Vehicle on its roof
   - Vehicle which has overturned
   - Deployment of an airbag
   - Vehicle with a bent steering wheel
   - Known collision speed > 30 m.p.h
   - Intrusion of side impact bars
2. Any trauma patient with altered level of consciousness
3. Blunt trauma with associated injuries above the clavicles
4. Penetrating trauma to head, neck, and/or torso
5. Falls from a height
6. Shallow water diving accidents
7. Hangings
8. Gunshot wounds

Consider spinal signs and symptoms e.g.
1. Back pain
2. Paraesthesiae

NO

Return to SOP 4a / 4b

YES

Return head to neutral position if:
- no pain
- no resistance

EMT 1 - In-line head and neck stabilisation
EMT 2 - Apply appropriate size cervical collar

Complete SOP 4a/5a or 4b/5b then

If patient is lying or standing

Check patient's position

Go to SOP 7b

If patient is in a vehicle or other confined space

Go to SOP 7c
Standard Operating Procedure  

Spinal Immobilisation - Long Spine Board

**Take universal infection control precautions**

From SOP 7a

Minimum 4 people
Maintain in-line stabilisation
EMT at head directs operation

Log roll / use orthopaedic stretcher to move patient onto long board

Secure patient's body with straps to immobilise. Pad adequately

Apply head stabilisation blocks
Apply head and chin straps

Check that hands and feet are secure

Transfer patient to trolley

Transport to appropriate A&E

4 trained people not immediately available

Patient is C or U (adults)
C, U or P (paeds.) in CUPS

Patient is P (adults) in CUPS

Make use of all personnel available to ensure rapid safe transport

Assess likely delay to obtain trained personnel

If delay excessive given prevailing circumstances:
use all personnel available to ensure rapid safe transport

Go to SOP 15a

---

C = Critical, U = Unstable, P = Potentially Unstable, S = Stable
Standard Operating Procedure

Spinal Immobilisation - Extrication Device (Jacket)

Take universal infection control precautions

From SOP 7a

Check - sensory/motor function
Distal pulses in extremities

Application of Extrication Device
1. Position and centre Extrication Device behind patient
2. Pull leg restraints from behind patient
3. Wrap chest flaps around patient - secure middle and lower chest restraints
4. Lift handles to raise Extrication Device under patient's armpits
5. Secure leg restraints
6. Fill gap between head/neck and device
7. Wrap head flaps around head and attach forehead and chin straps
8. Secure upper chest restraint

Check all restraints

Check - sensory/motor function
Distal pulses in extremities (if possible)

Secure hands together
Secure legs (do not impede extrication)

Move To Long Spine Board

Release leg restraints and upper chest restraint on Extrication Device
Strap body to Long Spine Board at chest, hips and legs

Transfer patient to trolley

Transport to appropriate A&E

Go to SOP 15a
Standard Operating Procedure SOP 10a

Chest Pain

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Go to SOP 4a

Is resuscitation indicated?

YES

Go to SOP 1a

NO

Administer O₂ See SOP 13a
Attach monitor
Vital signs

Interview patient
See SOP 5a interview

Is Chest Pain thought to be Cardiac?

YES

Consider
Analgesia
GTN
Aspirin

NO

Consider Entonox

Go to SOP 13b

Go to SOP 15a

Go to SOP 13c / 13d

Calm & quiet transport to appropriate A&E
Altered Level of Consciousness

Take universal infection control precautions

Consider pre-arrival information

Scene safety
Scene survey
Scene situation

Establish
Responsiveness / Unresponsiveness

Go to
SOP 4a / 5a or 4b / 5b

Continuous assessment of ABCs, vital signs, level of consciousness

Transport to appropriate A&E

Go to
SOP 15a
Standard Operating Procedure SOP 13a

Oxygen

NB Patient may initially be on high flow oxygen, the flow rate may be changed.

Take universal infection control precautions

Refer to safety data sheet for more information

CUPS Categories

History of COAD

Tolerates mask?

Record on PRF

Observe caution in premature neonates
Standard Operating Procedure

Entonox

Take universal infection control precautions

Beware of Entonox use when ambient temperature near freezing - See Data Sheet

**Indications**
- Any painful condition:
  - Medical
  - Surgical
  - Trauma

**Effects:**
- Pain relief
- Disinhibition

**Contraindications**
- Impaired level of consciousness
- Head injury
- Chest injury / Pneumothorax
- Major facial injuries
- Shock
- Recent scuba dive
- Decompression sickness

**Special Precautions:**
- Ability to cooperate e.g.
  - extremes of age
  - psychiatrically disturbed
  - mentally confused patients
  - intoxication from alcohol or other drugs

**Dose of Entonox**
- Route: via mask or mouth piece
- Dose:
  - always self administered
  - pain relief must be under the control of the patient
  - intermittent use only

Record on PRF

Monitor level of consciousness, airway and breathing throughout use.
Glyceryl Trinitrate

Take universal infection control precautions

Cardiac Chest Pain
See SOP 10a

Indication for GTN

NO if
YES

Systolic blood pressure 90mmHg or below
Viagra use within 24hrs

Relief of pain associated with:
Angina pectoris
Acute MI

Effects
Dilates coronary arteries
Dilates systemic veins, reducing pre-load
Reduces systemic blood pressure

Side effects:
Headache
Transient hypotension
Flushing of the face

Dose in treating Angina Pectoris

Route: Sub-lingual / buccal

Dose: 400 microgram (single spray)
Repeat at 5 minute intervals, if necessary

MAX ALLOWABLE DOSE: 1200 microgram (3 sprays)

Record on PRF
Standard Operating Procedure SOP 13d

Aspirin

Take universal infection control precautions

Cardiac Chest Pain
See SOP 10a

Indication for Aspirin

NO if

A - allergy to aspirin
S - stomach ulcers
A - anti-coagulant therapy or bleeding tendency
P - pregnancy

YES

Chest pain suggestive of Myocardial Infarction

Effects

Anti-platelet action

Side effects:
(Uncommon)
Gastric irritation & bleeding
Severe bronchospasm

Dose in suspected Myocardial Infarction

Route: Orally (to be chewed)
Dose: 150mgs

Record on PRF
Transport Procedures

Take universal infection control precautions

From all transporting SOPs

- Secure trolley stretcher with brackets in ambulance
- Ensure patient is secured with straps to trolley stretcher
- Change Oxygen supply from portable cylinder to piped system
- Ensure all passengers are strapped in
- Ensure all equipment is secured

- Ensure ABC's are attended to - continue all resuscitation and FBAO procedures as required
- Radio report to A&E Dept.

- Complete secondary survey once ABC's are attended to
- Explain process to patient and continue reassurance
- Treat wounds and fractures as appropriate

Strap yourself in

Record vital signs every 15 minutes in a stable patient

Complete Patient Report Form as patient's condition and journey time allow

Arrival at A&E Dept.

- Transfer patient from ambulance trolley to hospital trolley
- Complete a verbal hand over of patient with nurse or doctor
- Complete the Patient Report Form and hand it to nurse / doctor caring for patient
# Standard Operating Procedure

## CUPS Categories for Adult and Paediatric Patients

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| **C** Critical | Witnessed cardiac arrest  
Respiratory arrest |
| **U** Unstable | Airway difficulties  
Breathing difficulties  
Serious chest injuries  
Serious head injuries  
Uncontrollable bleeding  
Obvious shock  
Crushing chest pain  
2 proximal long bone fractures  
Penetration of head, neck, chest, abdomen, groin  
Suspected meningitis  
Decreased level of consciousness  
Extensive burns > 15% to face, trunk  
**Paediatric:** burns > 10% BSA or any burns to face |
| **P** Potentially Unstable | S & S of serious injury requiring secondary survey to identify  
Mechanism of injury suggestive of hidden injury  
Major isolated injuries  
Extremity injuries with nerve or circulatory damage |
| **S** Stable | Minor isolated injury with:  
no major blood loss  
no nerve damage  
no circulatory damage  
no signs of shock  
no other complications |

The above list is not definitive or exclusive.

Please note the following with “Load and Go” procedures:

- **Adult** - Load and Go if patient fits into category **C** or **U**
- **Paediatric** - Load and Go if patient fits into categories **C**, **U** or **P**
# Standard Operating Procedure Paediatric Values

## Height and weight range for paediatric patients

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Range of Mean Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Height (Average)</td>
</tr>
<tr>
<td>Newborn</td>
<td>Birth – 6 weeks</td>
<td>51 – 63 cm</td>
</tr>
<tr>
<td>Infant</td>
<td>7 weeks – 1 year</td>
<td>56 – 80 cm</td>
</tr>
<tr>
<td>Toddler</td>
<td>1 – 2 years</td>
<td>77 – 91 cm</td>
</tr>
<tr>
<td>Preschool</td>
<td>2 – 6 years</td>
<td>91 – 122 cm</td>
</tr>
<tr>
<td>School age</td>
<td>6 – 13 years</td>
<td>122 – 165 cm</td>
</tr>
<tr>
<td>Adolescent</td>
<td>13 – 16 years</td>
<td>165 – 182 cm</td>
</tr>
</tbody>
</table>

## Pulse rates for paediatric patients

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Beats /Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>Birth – 6 weeks</td>
<td>120 – 160</td>
</tr>
<tr>
<td>Infant</td>
<td>7 weeks – 1 year</td>
<td>80 – 140</td>
</tr>
<tr>
<td>Toddler</td>
<td>1 – 2 years</td>
<td>80 – 130</td>
</tr>
<tr>
<td>Preschool</td>
<td>2 – 6 years</td>
<td>80 – 120</td>
</tr>
<tr>
<td>School age</td>
<td>6 – 13 years</td>
<td>(60 – 80) – 100</td>
</tr>
<tr>
<td>Adolescent</td>
<td>13 – 16 years</td>
<td>60 – 100</td>
</tr>
</tbody>
</table>

## Respiratory rates for paediatric patients

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Breaths /Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>Birth – 6 weeks</td>
<td>30 – 50</td>
</tr>
<tr>
<td>Infant</td>
<td>7 weeks – 1 year</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Toddler</td>
<td>1 – 2 years</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Preschool</td>
<td>2 – 6 years</td>
<td>20 – 30</td>
</tr>
<tr>
<td>School age</td>
<td>6 – 13 years</td>
<td>(12 – 20) – 30</td>
</tr>
<tr>
<td>Adolescent</td>
<td>13 – 16 years</td>
<td>12 – 20</td>
</tr>
</tbody>
</table>

## Blood pressure in paediatric patients

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Expected mean for Blood Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>Birth – 6 weeks</td>
<td>74 – 100 mm Hg</td>
</tr>
<tr>
<td>Infant</td>
<td>7 weeks – 1 year</td>
<td>84 – 106 mm Hg</td>
</tr>
<tr>
<td>Toddler</td>
<td>1 – 2 years</td>
<td>98 – 106 mm Hg</td>
</tr>
<tr>
<td>Preschool</td>
<td>2 – 6 years</td>
<td>98 – 112 mm Hg</td>
</tr>
<tr>
<td>School age</td>
<td>6 – 13 years</td>
<td>104 – 124 mm Hg</td>
</tr>
<tr>
<td>Adolescent</td>
<td>13 – 16 years</td>
<td>118 – 132 mm Hg</td>
</tr>
</tbody>
</table>
## Standard Operating Procedure

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Glossary</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td>fracture</td>
</tr>
<tr>
<td>+/-</td>
<td>with or without</td>
</tr>
<tr>
<td>&lt; / &gt;</td>
<td>less than / greater than</td>
</tr>
<tr>
<td>ABC</td>
<td>airway breathing circulation</td>
</tr>
<tr>
<td>Abdo</td>
<td>abdomen</td>
</tr>
<tr>
<td>BP</td>
<td>blood pressure</td>
</tr>
<tr>
<td>bpm</td>
<td>beats per minute</td>
</tr>
<tr>
<td>Buccal</td>
<td>mouth</td>
</tr>
<tr>
<td>BSA</td>
<td>body surface area</td>
</tr>
<tr>
<td>BVM</td>
<td>bag valve mask</td>
</tr>
<tr>
<td>C-Spine</td>
<td>cervical spine</td>
</tr>
<tr>
<td>CPR</td>
<td>cardio-pulmonary resuscitation</td>
</tr>
<tr>
<td>CSM</td>
<td>circulation sensation movement</td>
</tr>
<tr>
<td>CUPS</td>
<td>Critical, Unstable, Potentially Unstable, Stable</td>
</tr>
<tr>
<td>FBAO</td>
<td>Foreign Body Airway Obstruction</td>
</tr>
<tr>
<td>GCS</td>
<td>Glasgow Coma Scale</td>
</tr>
<tr>
<td>GTN</td>
<td>Glyceryl Trinitrate</td>
</tr>
<tr>
<td>LPM</td>
<td>litres per minute</td>
</tr>
<tr>
<td>MI</td>
<td>myocardial infarction</td>
</tr>
<tr>
<td>NPA</td>
<td>naso-pharyngeal airway</td>
</tr>
<tr>
<td>O2</td>
<td>Oxygen</td>
</tr>
<tr>
<td>OPA</td>
<td>oro-pharyngeal airway</td>
</tr>
<tr>
<td>PEA</td>
<td>pulseless electrical activity</td>
</tr>
<tr>
<td>Paeds.</td>
<td>paediatric</td>
</tr>
<tr>
<td>PRF</td>
<td>Patient Report Form</td>
</tr>
<tr>
<td>Resp</td>
<td>respirations</td>
</tr>
<tr>
<td>S &amp; S</td>
<td>signs and symptoms</td>
</tr>
<tr>
<td>SOB</td>
<td>shortness of breath</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operating Procedure</td>
</tr>
<tr>
<td>Sub-lingual</td>
<td>under the tongue</td>
</tr>
<tr>
<td>VF</td>
<td>ventricular fibrillation</td>
</tr>
<tr>
<td>VT</td>
<td>ventricular tachycardia</td>
</tr>
</tbody>
</table>
# Bibliography


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