Airway obstruction

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Learning objectives

— Student will learn how to recognize and evaluate airway obstruction.

— Student will learn the algorithm for airway obstruction in adults and children.

— Student will learn the indication and the correct performance of abdominal/chest thrust.

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Foreign body airway obstruction

— Airway obstruction by inhaled object or fluid
  — Full x Partial

— Sudden start
— History of food intake, play with a small object
— A foreign body causes coughing, suffocation, vomiting
— The most endangered group are young children, the elderly, diseases of myasthenia gravis, Guillain-Barre syndrome, etc.

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Manifestation

— The victim suddenly grabs his neck and cannot speak. Trying to breathe, we hear an inspirational stridor.

— Rapid development of dyspnoea, panic fear, inability to speak, cyanosis, rise in heart rate, jugulum and intercostal invasion.

— If not relieved → victim may turn blue (cyanosis) → veins in face and neck become more pronounced.

— This is followed by unconsciousness from hypoxia, slowing of the heart frequency → cardiac arrest.

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Management

Recognize obstruction
- Sudden onset
- Cough, sign of suffocation
- Information about food intake or play with small object that preceded the event

State of consciousness
- Conscious → ask the victim (e.g. „Are you choking?")
- Unconscious → proceed CPR

Assessment of severity
- Able to speak, cough and breathe → mild obstruction
- Unable to speak, has a weakening cough, is struggling or unable to breathe → has severe airway obstruction

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Effective and ineffective cough

Ineffective cough
• Unable of speaking
• Quiet or silent cough
• Decreasing level of consciousness
• Cyanosis
• Unable of breathe

Effective cough
• Crying or verbal response
• Loud cough
• Able to take breath before coughing
• Preserve conscious
• Fully responsive

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General principles of treatment

Manoeuvres leading to increase intrathoracic pressure

- A spontaneous cough is likely to be more effective and safer than any manoeuvre you might perform. Active interventions are required only when coughing becomes ineffective.
- These include back blows and abdominal/chest thrusts
- Whenever the situation allows to alternate after 5 executions until the object is expelled or the consciousness changes
- All victims successfully treated with these measures should be examined afterwards for injury

State of consciousness

- Regular check, in case of its failure, start CPR by trying 5 rescue breaths
- Never blindly sweep the finger when opening the airway

After successful expulsion

- Always assess condition, part of the object could remain in the airway

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Back blows

— Stand to the side and slightly behind the victim

— Support the chest with one hand and lean the victim well forward

— Give up to 5 sharp back blows with the heel of your other hand in the middle of the back between the shoulder blades

— A small child may be placed across the rescuer´s lap
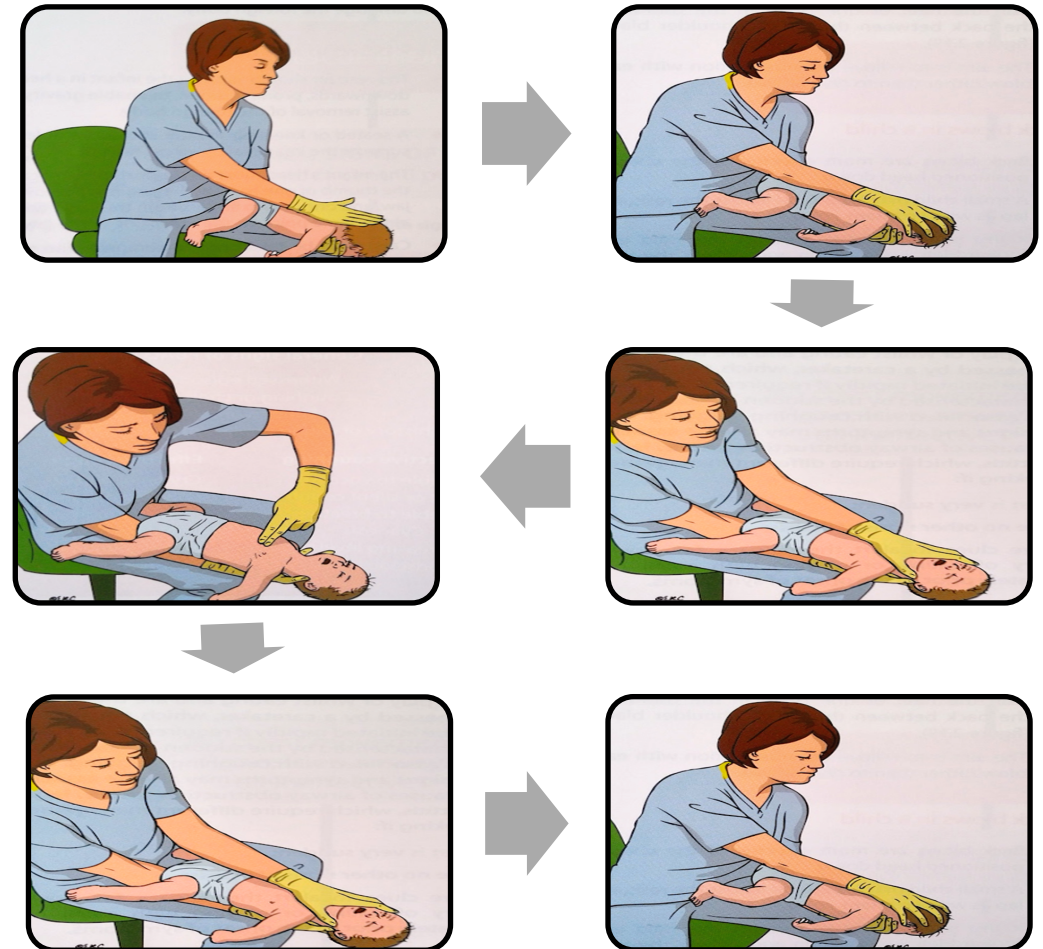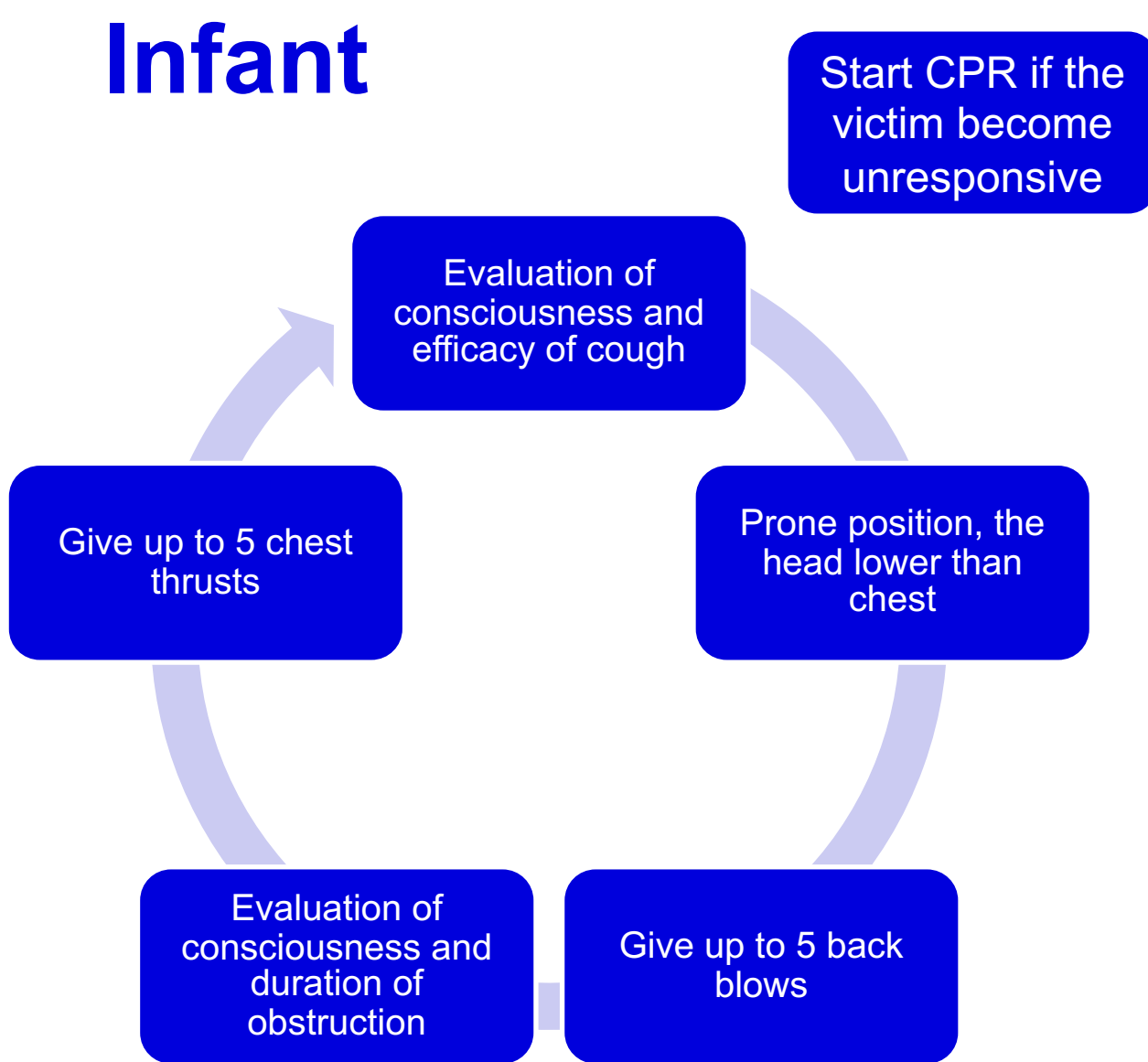
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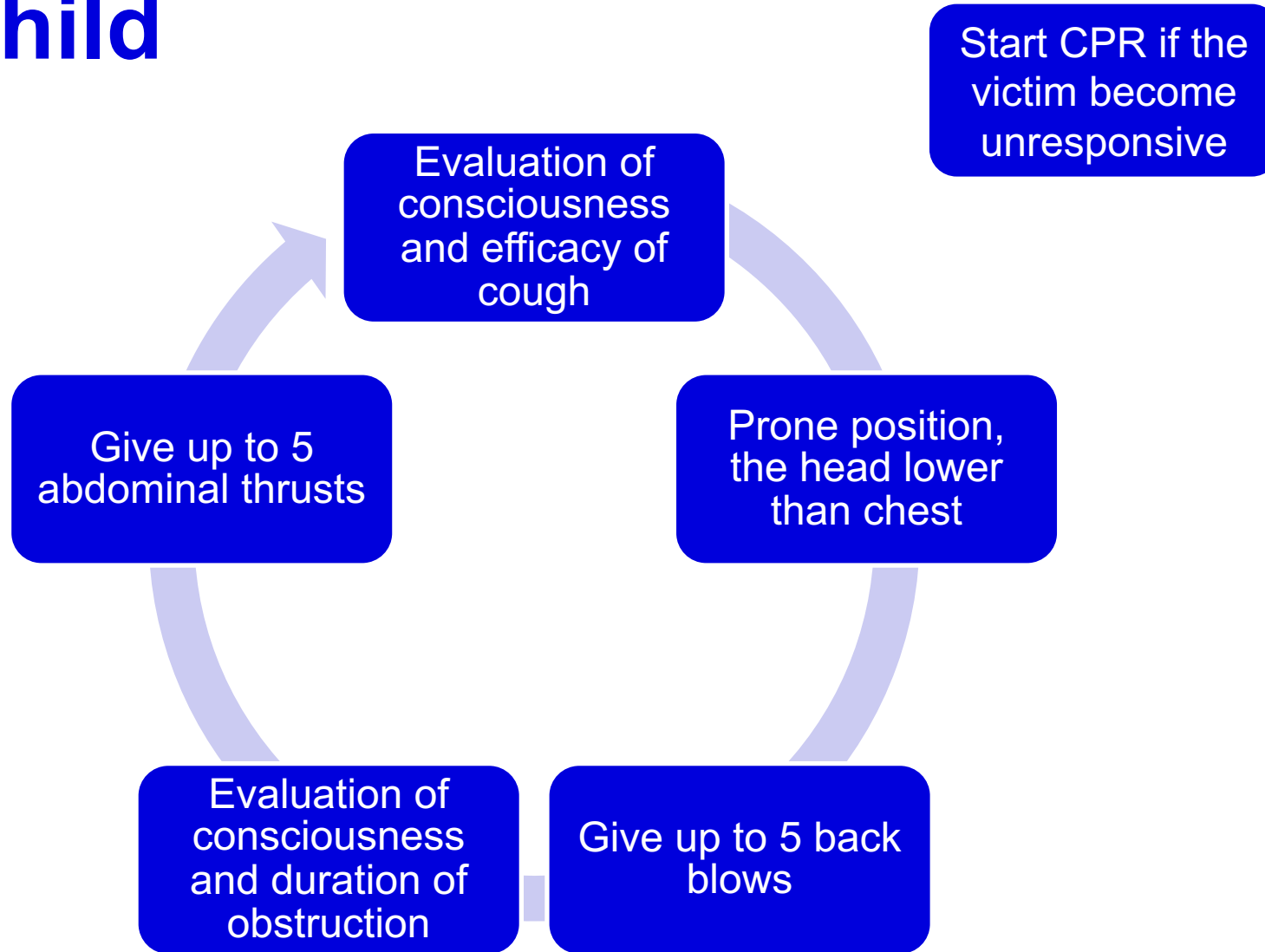MED

Chest/abdominal thrust (Heimlich manoeuvre)

- Stand behind the victim and put both arms round the upper part of the abdomen. Lean the victim forwards.
- Clench your fist and place it between the umbilicus and the ribcage. Grasp this hand with your hand and pull sharply inwards and upwards. Repeat up to five times.

- The risk of injury is at all ages, but highest in newborn and infants, so we do not use it in patients under 1 year of age.
  - Do not use even in pregnant and severely obese.
- Alternative – sharp compression of the chest in place for compression in CPR.

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Infant

Start CPR if the victim become unresponsive

Evaluation of consciousness and efficacy of cough

Prone position, the head lower than chest

Give up to 5 chest thrusts

Give up to 5 back blows

Evaluation of consciousness and duration of obstruction

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Child

Start CPR if the victim become unresponsive

Evaluation of consciousness and efficacy of cough

Prone position, the head lower than chest

Give up to 5 abdominal thrusts

Give up to 5 back blows

Evaluation of consciousness and duration of obstruction

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Adult

Suspect choking

Encourage to cough

Give up to 5 abdominal thrusts

Give up to 5 back blows

Evaluation of consciousness and duration of obstruction

Give up to 5 back blows

Give up to 5 abdominal thrusts

Start CPR if the victim become unresponsive

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Resources

— G.D. Perkins et al. / Resuscitation 95 (2015) 81–99
— I.K. Maconochie et al. / Resuscitation 95 (2015) 223–248

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Learning outcomes

— Student is able to describe the symptoms of severe and mild airway obstruction.

— Student is able to describe the individual steps of the algorithm for airway obstruction in adults or children.

— Student is able to decide for correct abdominal/chest trust.

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