



Medical Emergencies in Dental Practice

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Table 1. Prevalence of medical emergencies reported by dentists over a 12-month period.¹

Emergency	Cases per dentist per year	Average number of years before a case is encountered
Vasovagal syncope	1.9	0.5
Angina	0.17	5.7
Epileptic fit	0.13	7.2
Hypoglycaemia	0.17	5.6
Asthma	0.06	15.1
Choking	0.09	11.2
Anaphylaxis	0.013	75.5
Myocardial infarction	0.006	151
Cardiac arrest	0.003	302
Unspecified collapse	0.026	37.6

- A. Risk Assessment
- B. Prevention
- C. Medical Emergency Drugs
- D. Medical Emergencies

- | | |
|---|----------------------------|
| 1 | Loss of Consciousness |
| 2 | Chest Pain |
| 3 | Hypersensitivity Reactions |
| 4 | Hypoglycemic Shock |
| 5 | Hyperventilation |
| 6 | Choking |
| 7 | Acute Adrenal Crisis |

Risk Assessment

1. Patient's History
2. Current condition
3. Medical problems

Prevention

Medical History

- Are there any **recent changes** to health?
- Is the patient **under the care** of a physician?
- Has the patient had any **serious illness** or operation?
- Does the patient have any **allergies**?
- Is the patient taking any **drugs** or **medications**? Remember to ask about over the counter medications as well.
- Is the patient **pregnant**?
- For already diagnosed disorders must ask:
 - **When did the patient develop the disease or problem?**
 - **How is the problem controlled?**
 - **Is there anything that makes the problem worse?**
 - **Has the patient been hospitalized for the problem?**
 - **Are there any restrictions on the patient?**

Prevention

Patient Evaluation

- Record vital signs.
- Complete dental exam.
- Visual inspection of the patient

Prevention

Staff Training and Preparation

- Training: Staff needs to have the knowledge to identify and correctly manage each emergency.
- Easily accessible emergency equipment and drugs.
- Coordination of office personnel.

Prevention

Stress Reduction Protocol for the Anxious Patient

- Recognize patient's anxiety level.
- Consider using pre-medication or sedation
- Schedule morning appointments.
- Minimize waiting time and watch appointment length.
- Make sure to use adequate pain control. This will vary from patient to patient.
- Monitor vital signs.
- Medical consult if required.

Table 1. Contents of the emergency drug box

- Adrenaline (epinephrine) 1 in 1,000
- Aspirin 300 mg
- Chlorphenamine (10–20 mg)
- Diazepam (5 mg/ml)
- Glucagon (1 mg)
- Glucose intravenous infusion (20% / 50%)
- Glyceryl trinitrate tablets / spray
- Hydrocortisone injection (100 mg)
- Oxygen
- Salbutamol
- (Flumazenil)

1. **Portable oxygen cylinder** (D size) with pressure reduction valve and flowmeter.
2. **Oxygen facemask** with tubing (Figure 4).
3. **Oropharyngeal airways** (sizes 1,2,3 and 4) (Figure 6).
4. **Pocket mask** with oxygen port (Figure 3).
5. **Self-inflating bag** and mask apparatus with oxygen reservoir and tubing (1l size bag), where staff have been appropriately trained (Figure 5).
6. Variety of well fitting adult and child **face masks** for attaching to self-inflating bag.
7. **Portable suction** with appropriate suction catheters and tubing, e.g., the Yankauer sucker.
8. Single use **sterile syringes and needles**.
9. 'Spacer' device for inhaled bronchodilators.
10. **Automated blood glucose measurement device** (Figure 7).

1 Loss of Consciousness

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Common Causes

1. Vasovagal syncope (fainting).
2. Myocardial infarction
3. Bradycardia
4. Stroke
5. Hypoglycemia,
6. Anaphylaxis.

1 Loss of Consciousness

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Signs and symptoms of
vasovagal syncope:
pallor, nausea, sweating, visual
disturbances, loss of
consciousness.

Lie patient flat.
Raise Legs

Give O₂

Maintain supine position
and reassure until HR
and BP recover

2 Chest Pain

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The main causes of chest pain

- Angina
- Myocardial infarction
- Pleuritic, e.g., pulmonary embolism
- Musculoskeletal
- Esophageal reflux
- Hyperventilation

2 Chest Pain

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2 Chest Pain

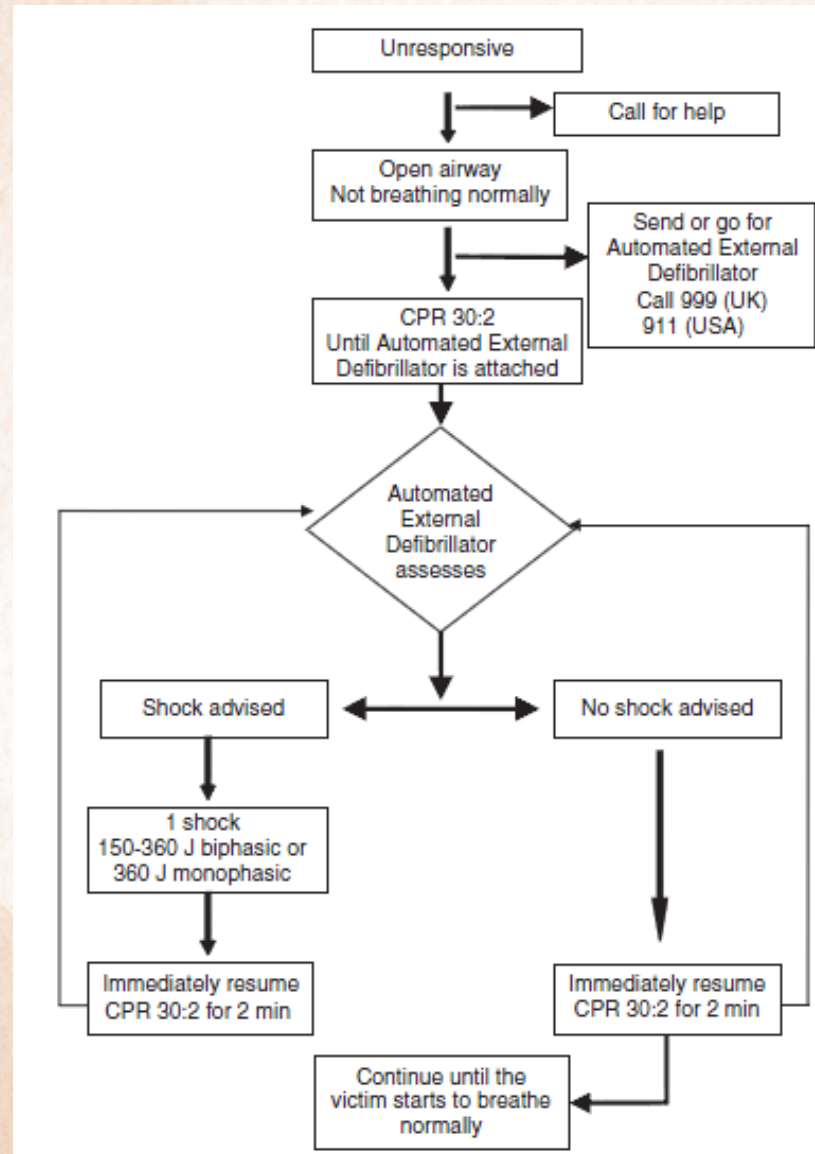
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3 Hypersensitivity Reactions

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Signs and symptoms: itchy rash, facial swelling, bronchospasm, tachycardia, hypotension, stridor

Remove cause (latex gloves, etc.)

Alert EMS 999/112

Lie supine, raise legs,
give high flow O₂

Give adrenaline 0.5mg IM
(0.5mls of 1:1,000)

Monitor HR, BP
and respiratory function.
Repeat adrenaline
IM every five minutes until
improvement.

Also
consider giving:

- a) Hydrocortisone
200mg IM
- b) Chlorphenamine
10mg IM

4 Hypoglycemic Shock

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Management

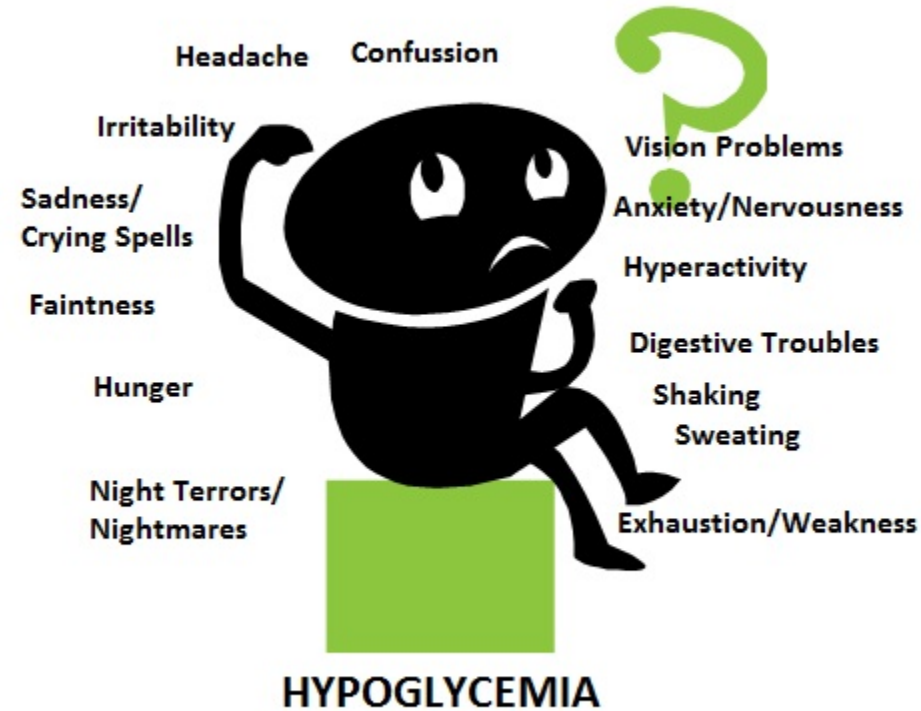
Conscious / Alert : Oral Glucose

Semi-Conscious / Unconscious:

1mg/1ml glucagon IM

or

20-50ml glucose IV



5 Hyperventilation

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Signs and symptoms:

Tingling of the fingers or lips, tetanic spasm of the peripheries, and dizziness. Unconsciousness can develop due to relative cerebral hypoxia.

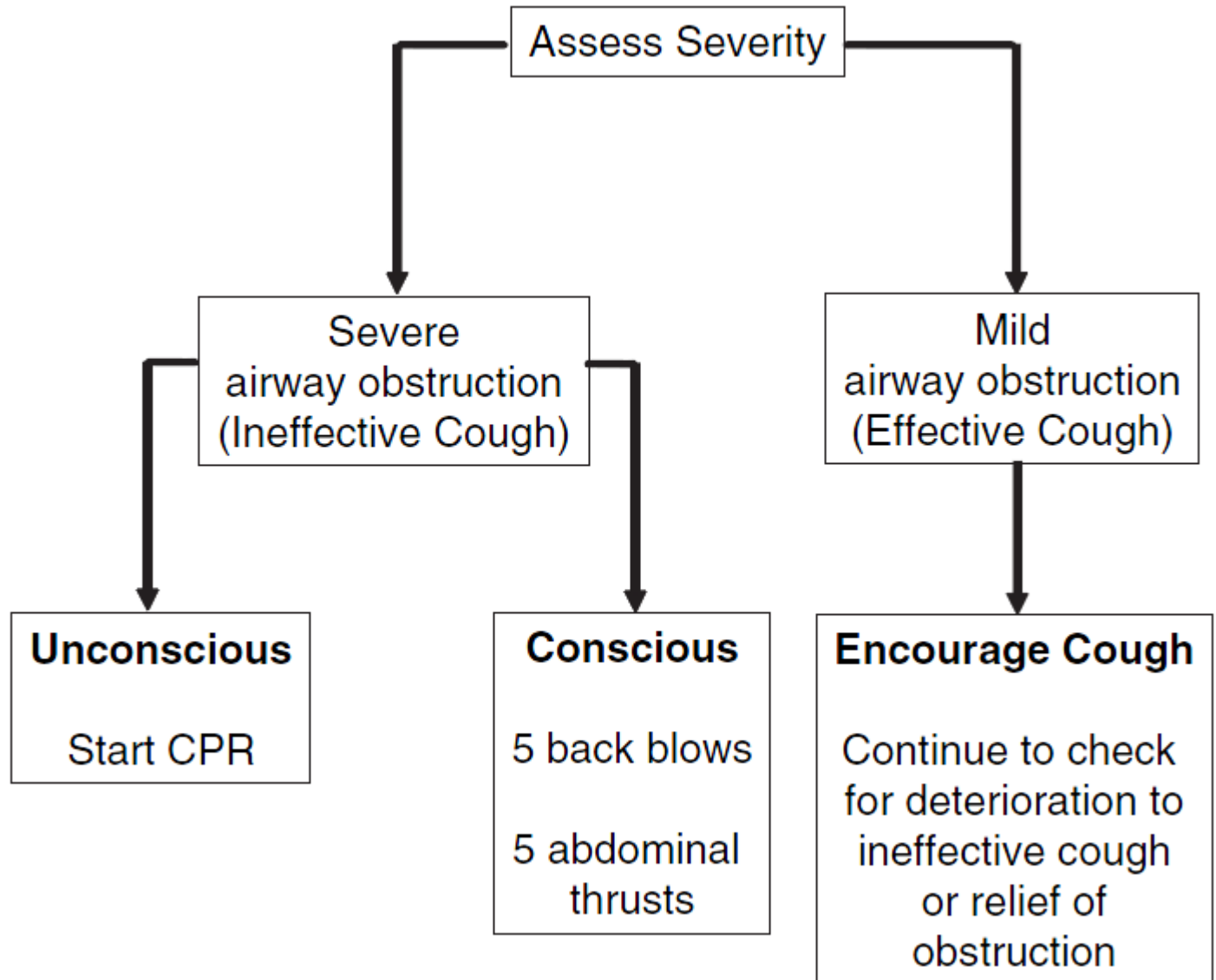
Reassure patient and advise simple breathing exercises – breath through nose, count to eight, out through the mouth, count to eight, hold for count of four at the end of expiration.

Re-breathing into a paper bag can also be beneficial as it results in an increased inspired CO_2 .

If the patient loses consciousness, maintain airway and place the patient into the recovery position until consciousness is regained.

6 Choking

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6 Choking

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Heimlich Maneuver

(Back Blows and Abdominal Thrusts for Choking)



1. Párese detrás de la persona y coloque un brazo alrededor de su pecho. Déle 5 golpes firmes en la espalda, entre los omóplatos.



2. Si los golpes en la espalda no expulsan el objeto que causó el atragantamiento, abraza el abdomen con sus dos brazos. Forme un puño con una de sus manos y apriete el centro del abdomen, con el pulgar hacia adentro. Agárrese el puño con su otra mano.



3. Comprima el abdomen 5 veces con un movimiento rápido y seco, hacia adentro y arriba. Continúe dando 5 golpes en la espalda y comprimiendo 5 veces el abdomen hasta que la persona expulse el objeto por la boca o pierda el conocimiento.

7 Acute Adrenal Crisis

Signs and symptoms:

confusion, sweating, vomiting, diarrhoea, hypotension, loss of consciousness, convulsions and ultimately circulatory collapse.

Give high flow O₂

Place patient supine

Alert emergency services 999/112

Administer hydrocortisone 200mg IV or IM

Thank You