DENTAL OFFICE MEDICAL EMERGENCIES

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Perform these algorithms as a team accurately and fast.

1. General emergency response protocol
2. Hypotension/Hypertension
3. Laryngospasm
4. Acute airway obstruction
5. Cardiopulmonary arrest
6. Acute allergic reaction to drugs
7. Angina pectoris (possible myocardial infarction)
8. Emesis and aspiration of vomitus
9. Convulsions (seizures)
10. Over-sedation
11. Hypoglycemia
12. Asthma/Bronchospasm
13. Respiratory Depression

1. General emergency response protocol

_____ Quietly alert the immediate staff working with the dentist.

_____ Get the Oxygen tank and bag-mask-valve.

_____ Call 911!

_____ Be ready to listen to orders and carry out orders.

2. a. **Hypotension (fainting)**

_____ Position the patient into Trendelenberg position.

_____ Elevate the patient's legs.

_____ Turn the Nitrous Oxide off and administer Oxygen at 8 Lpm.

_____ Turn the I.V. fluid up wide open. Have another I.V. bag ready to hang.

_____ Get an ammonia capsule (smelling salts) (Missouri).

_____ Mix ephedrine: 1 ml bottle diluted with 9 ml of I.V. fluid for a total of 10 ml.

_____ Mix phenylephrine: 1 bottle double diluted to 100mcg/ml.

_____ Get cold washcloths for the patient's head and cool off the room.

2.b. Hypertension

_____ Elicit the cause or causes for the patient's hypertension.

Pain; Anxiety; Stroke; Heart Failure; Myocardial Infarction; Hypertensive patient (medications taken at the wrong time, or not taken at all.)

_____ Start or maintain a patent I.V. fluid drip.

_____ Consider: *Call 911???* Freshening the local anesthetic; A narcotic intravenous analgesic: Fentanyl, Hydromorphone, Morphine, Demerol, etc. or:

A non-narcotic intravenous analgesic: Ketorolac, Caldolor, Acetaminophen

A beta blocker: Esmolol, Labetalol, Metoprolol

An anti-hypertensive: Hydralazine – loosens the noose

3. Laryngospasm

_____ Position the patient flat in the chair and adjust the chair to the operator's height.

_____ Apply Larson's Maneuver

_____ Administer Oxygen at 8 liters per minute (Lpm).

_____ Hook up the bag-mask-valve. Be ready to hand over a properly fitting mask. Remember the **C** and **E** mask finger position. Apply constant pressure with the Bag-Mask-Valve.

_____ Apply Larson's Maneuver. The Maneuver can be used first.

_____ Hook up and use a tonsil suction (Yankauer) to remove debris.

_____ Draw up 5ml of succinylcholine or Lidocaine 100mg.

4. Acute Airway Obstruction

_____ Position the patient flat in the chair and adjust the chair to the operator's height.

_____ Administer Oxygen at 8 Lpm.

_____ Hook up the bag-mask-valve. Be ready to hand over a properly fitting mask.

_____ Hook up a tonsil suction (Yankauer).

_____ Get out the laryngoscope and have a styleted endotracheal tube ready.

_____ Get out the emergency cricothyrotomy kit.

_____ Get out the Magill forceps.

_____ Turn the I.V. fluids wide open. Have another bag of I.V. fluid ready to hang.

5. Cardiopulmonary arrest

_____ Split up the duties between team members; **Perform these duties as a team accurately and fast.** There should be a Team Leader.

_____ Start CPR/BLS – somebody pump the chest; somebody breathe for the patient.

_____ Get the emergency crash cart, Oxygen tank, and bag-mask-valve.

_____ Get out the AED and place the paddles on the patient's chest in the right positions. Remember the CABDs.

_____ Call 911! Wait for the paramedics and direct them to the location.

_____ Draw up 1 ampule of epinephrine in a syringe.

_____ Push the epinephrine in with a 10ml bolus of I.V. fluid.

_____ Chart the events on a piece of blank paper.

_____ Get the Advanced Cardiac Life Support (ACLS) protocol card out of the top drawer of the anesthesia card and pipe in with comments and steps.

6. Acute Allergic Reaction

_____ Call 911!

_____ Turn the Nitrous Oxide off and administer Oxygen at 8 Lpm.

_____ Have a styleted endotracheal tube and a laryngoscope (with a Macintosh 4 blade) ready.

_____ Place the patient in Trendelenburg Position (feet above heart).

_____ Turn the I.V. fluids wide open. Have another bag of I.V. fluid ready to hang.

_____ Draw up a syringe with 50 mg of diphenhydramine (Benadryl).

_____ Draw up a syringe with 20 mg famotidine.

_____ Draw up a syringe with 1 mg of epinephrine.

7. Angina Pectoris (Possible Myocardial Infarction)

_____ Turn Nitrous Oxide off. Administer Oxygen at 8 Lpm.

_____ Call 911!

_____ Get the morphine sulfate.

_____ Get the baby aspirin.

_____ Get the sublingual nitroglycerin.

_____ Recline the patient. Do not stress the patient.

_____ Get cold washcloths for the patient's head.

8. Emesis (Aspiration of Vomitus)

_____ Elevate the patient's head.

_____ Turn the patient's head and body to the side. (Preferably to the left side; to the right side if you are working in Oral Surgery).

_____ Get the emesis basin.

_____ Make sure the low and high-speed suction can reach the patient's mouth.

_____ Get out and hook up the tonsil suction (Yankauer).

9. Convulsions (Seizures)

_____ Turn Nitrous Oxide off. Administer Oxygen at 8 Lpm or just breathe room air.

_____ Position the patient flat in the chair or flat on the floor, and guard them from injury.

_____ Call 911!

_____ Get 5 vials of midazolam (Versed®) or diazepam (Valium®). Administer as needed to stop the seizure. Consider the half-life of midazolam versus diazepam for the possibility of recurring seizures.

_____ Turn the I.V. fluids wide open. Have another bag of I.V. fluid ready to hang.

10. Over-sedation

_____ Support the airway.

_____ Confirm that there is movement of air.

_____ Follow airway obstruction algorithm if necessary.

_____ Check heart rate and blood pressure.

_____ People respond well to the use of their first names when trying to wake up the patient.

11. Hypoglycemia

_____ Get the tube of glucose or a sugary soda for the patient to immediately drink.

_____ Get the glucose monitor and do glucose check.

_____ Follow the emesis protocol on page 18, if necessary.

12. Asthma/bronchospasm

_____ Get the patient's inhaler before beginning the sedation and the surgery begin. Have it handy or get the albuterol inhaler from the medical emergency kit.

_____ Get the small oxygen tank.

_____ Hook up the bag-mask-valve. Be ready to hand-over a properly fitting mask.

_____ Administer several puffs of albuterol, may have to use the bag-mask-valve.

_____ For bronchospasm, give Primatene Mist puffs. This medication should be in your emergency cart as well as Albuterol.

13. **Respiratory Depression**

Respiratory Depression has many different causes.
As with hypertension, you have to make an accurate diagnosis so that you can properly treat the cause.

Some Sedation Dentistry Causes for Respiratory Depression:
1. Overnarcotized - too much opioid narcotic
2. Oversedation – too much sedative agent
3. Partial airway obstruction
4. Poor patient positioning – of head, neck, and body posture
5. Bronchiolar constriction
6. Upper Respiratory Infection
7. Chronic cough
8. COPD / Emphysema
9. Smoker
10. Opioid/Substance abuse
11. Alcohol abuse

Possible Treatments for Respiratory Depression:

_____**Overnarcotized –** support and position the airway and wait it out; Narcan® is always a possibility, but if you have been using it to control pain, the reversed patient will have instant intense pain and discomfort. Remember to titrate your doses of any medications and GO LOW AND GO SLOW with your dosing.

_____**Oversedation –** support and position the airway and wait it out. Gently shake and vocalize to the patient to, "Wake Up." People really respond well to the use of their first name.

_____**Partial airway obstruction –** quickly and carefully remove the obstruction or foreign body.

_____**Poor patient positioning of head, neck, body posture –** reposition: pull the body up to the top of the dental chair, position the head and neck in the sniffing position.
_____**Bronchiolar constriction –** albuterol and/or Primatene Mist™. You can also use the patient's corticosteroid inhaler.

_____**Upper Respiratory Infection –** cancel the case before you even start. For emergencies, make the dental visit brief and use only local anesthesia.

_____**Chronic cough –** have the patient cough and deep breathe prior to dental sedation and treatment. Allow breathing breaks for the patient. Remind them to alert you that they want to cough prior to performing delicate procedures.

_____**COPD / Emphysema –** consider having the patient visit their physician to optimize breathing prior to dental treatment. Consider very light sedation if necessary.

_____**Smoker –** must abstain at least 8 weeks for the lungs to clear. A patient with increased respiratory work of breathing is not a candidate for in-office sedation.

_____**Opioid abuse or Other Substance Abuse –** not a candidate for sedation.

_____**Alcohol abuse –** evaluate the patient's tolerance for abstaining from alcohol and assure yourself that the patient has not self-medicated with alcohol prior to the sedation visit. Cancel the procedure if alcohol abuse occurred preoperatively.