



SYNCOPE IN ORAL AND MAXILLOFACIAL SURGERY MADE EASY: A REVIEW

Muthalagappan P¹, Ananthanarayanan V², Akshaya Subhashinee Dhanasekaran³, Arun Vignesh K R⁴, Mehul A. Shah^{5*}, Anjali Kumari⁶, Krishna Kumar Raja Vb⁷

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Abstract:

Syncope is a medical emergency characterized by a transient reduction of blood flow to the brain, which results in momentary and reversible loss of consciousness. It is a sudden, transient loss of consciousness associated with a loss of postural tone. These occur as a result of an abrupt drop in systolic blood pressure to below 70 mm Hg or in mean arterial pressure to below 40 mm Hg, which results in a brief interruption of cerebral blood flow lasting more than 8 seconds. This article will provide a comprehensive review of understanding the evaluation of loss of consciousness, etiology, pathophysiology, and thorough management protocol of syncope.

Keywords: Basic Life Support, Blood Pressure, Emergency, Syncope

¹MDS; Assistant Professor, Department of Oral and Maxillofacial Surgery, SRM Dental College, Ramapuram, Chennai, India

²MDS; Assistant Professor, Department of Oral and Maxillofacial Surgery, SRM Dental College, Ramapuram, Chennai, India

³MDS; Assistant professor, Department of Oral and Maxillofacial Surgery, SRM Dental College, Ramapuram, Chennai, India

⁴MDS; Assistant professor, Department of Oral and Maxillofacial Surgery, SRM Dental College, Ramapuram, Chennai, India

^{5*}MDS, Department of Public Health Dentistry, KLE VK Institute of Dental Sciences, KLE Academy of Higher Education and Research, Belagavi, India. ORCID ID: <https://orcid.org/0000-0003-3291-8716>

⁶BDS; SRM Dental College, Ramapuram, Chennai, India

⁷MDS; Professor and Head of the Department, Department of Oral and Maxillofacial Surgery, SRM Dental College, Ramapuram, Chennai, India

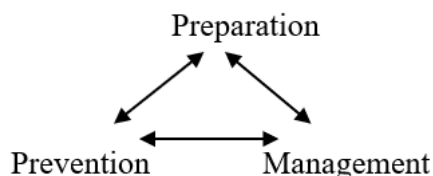
***Corresponding Author:** Mehul A. Shah

MDS; Department of Public Health Dentistry, KLE VK Institute of Dental Sciences, KLE Academy of Higher Education and Research, Belagavi, India, Email: mehulshah1126@gmail.com

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INTRODUCTION:

An emergency is a significant, unforeseen, and frequently dangerous circumstance that demands quick response. Preparation is the major focus while handling medical emergencies in a dental clinic. It has been said that “If you are prepared for the emergency, the emergency ceases to exist”. Preparation, prevention and management are the key strategies in the management of syncope patients².



METHODS TO RECOGNIZE ANXIETY:

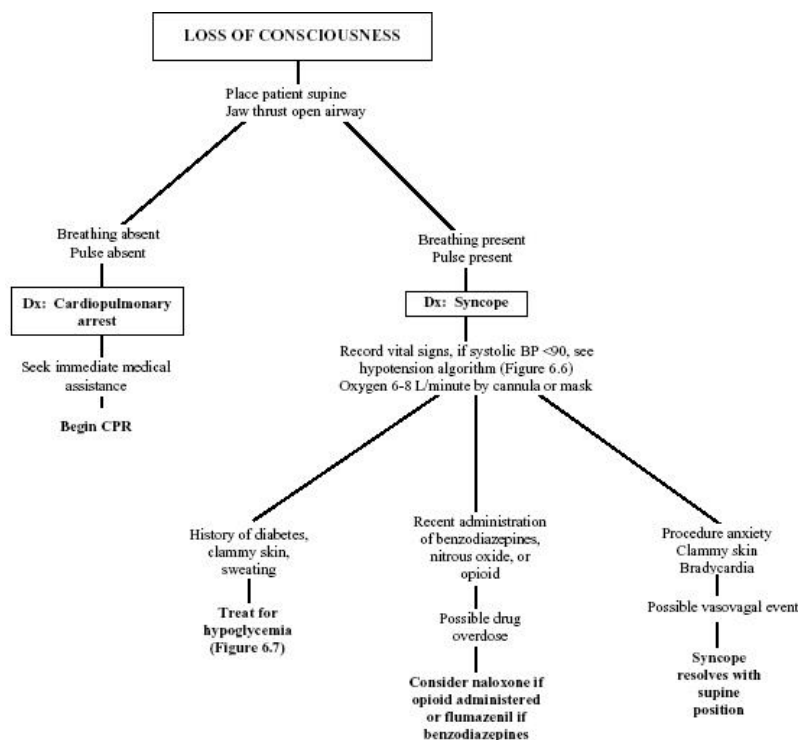
- a) Increased blood pressure, rapid heartbeat.
- b) Trouble concentrating
- c) Increased respiration / Tremors

- d) Excessive sweating, dilated pupils.
- e) “White Knuckle” syndrome.
- f) Unnaturally stiff posture (Inability to sit still)
- g) Fiddling with items with his or her hand.
- h) Headache, giddiness

LOSS OF CONSCIOUSNESS:

The most common cause of loss of consciousness in dental practice is vaso-vagal syncope (fainting). If recovery is not rapid after appropriate treatment, other possibilities should be considered such as MI, bradycardia, heart block, stroke, hypoglycaemia or anaphylaxis⁴.

- Inadequate delivery of blood and oxygen to brain
- Direct/reflex effects on CNS: cerebrovascular accident, seizures
- Psychic mechanisms: vasodepressor syncope/hyperventilation/emotional disturbances



Flow chart 1: Evaluation of loss of consciousness

SYNCOPE:

The most frequent medical emergency in a dental setting is syncope. Psychological stress (such as anxiety, pain, or the sight of blood), hypoglycemia, and pre-existing cardiovascular disease can all contribute to it. The symptom of syncope is characterized by a momentary loss of consciousness and postural tone. The patient experiences an episode swiftly and recovers within two minutes.

Syncope is defined as transient loss of consciousness (TLOC) due to cerebral hypoperfusion, characterized by a rapid onset, short duration, and spontaneous complete recovery. The classification of syncope by the European Society of Cardiology (ESC) is based on the leading causes: (1) reflex syncope (e.g. vasovagal), (2) syncope due to orthostatic hypotension and (3) cardiac syncope³ (Table 1).

Table 1: Etiology of syncope

Pathophysiological origin	Causes
Reflex syncope	Vasovagal, situational syncope, orthostatic hypotension, carotid sinus hypersensitivity
Cardiac syncope	Structural heart disease, bradyarrhythmia, tachyarrhythmia hypotension, carotid sinus hypersensitivity
Neurological causes	Cerebrovascular disease, autonomic dysfunction, subclavian steal syndrome
Other causes	Endocrinological causes, psychiatric disorders

Vasovagal syncope (VVS), known as common faint, is a neurally mediated syndrome associated with hypotension and relative bradycardia due to cerebral hypoperfusion (> 20%)⁵. Facial pallor, perspiration, nausea, and fever are the early clinical signs, sometimes known as presyncope. This phenomenon typically happens when a patient is in an upright position for an extended period of time, is under emotional stress, pain, or is in a medical environment.⁷ Epidemiological studies indicate that syncope has a bimodal incidence through life with peaks at 15–30 (young males as they will not express their thoughts/pain outside) and > 70 years (as cerebral blood flow slightly decreases as one gets older)

PATHOPHYSIOLOGY:

Inadequate cerebral blood flow, which occurs when the brain's supply of glucose is interrupted even for a brief period, can cause syncope or loss of consciousness. A complicated mechanism including cardiac output, systemic vascular resistance, mean arterial pressure and intravascular volume maintains cerebral blood flow. Any flaw in any of these systems causes a reduction in cerebral blood flow. The venous bed contains around three-fourths of the blood, and any disruption of venous return might reduce cardiac output.

Prolonged standing/sitting/stress / fear / pain → Peripheral vasodilatation-decreased venous return to heart → Heart contracts vigorously / Under filled chamber → Ventricle receptor

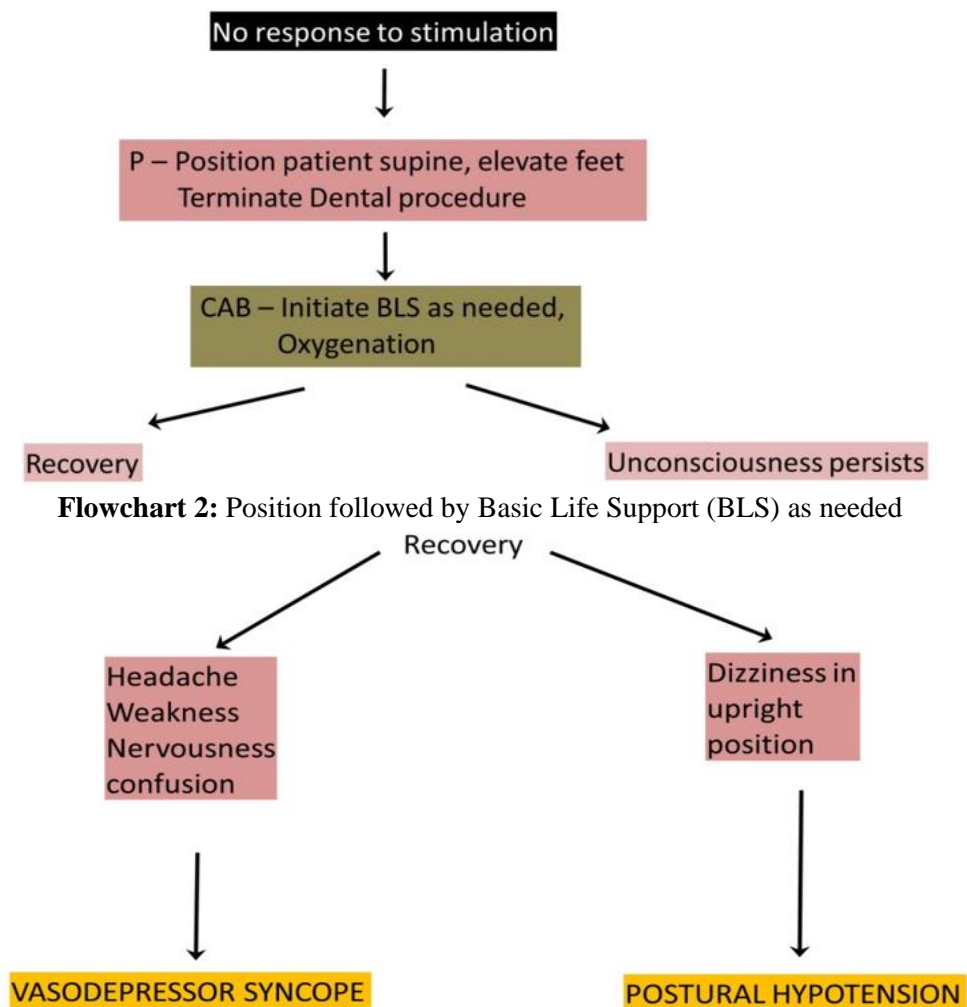
activation → Feedback to CNS via Vagus nerve → increased vagal and decreased sympathetic activity → Hypotension and Bradycardia → Syncope.

SIGNS AND SYMPTOMS:

- Pallor, flushed feeling, sweating, nausea, vomiting
- Weakness
- Light-headedness
- Dimming of vision
- Bradycardia
- Hypotension
- Brief unconsciousness

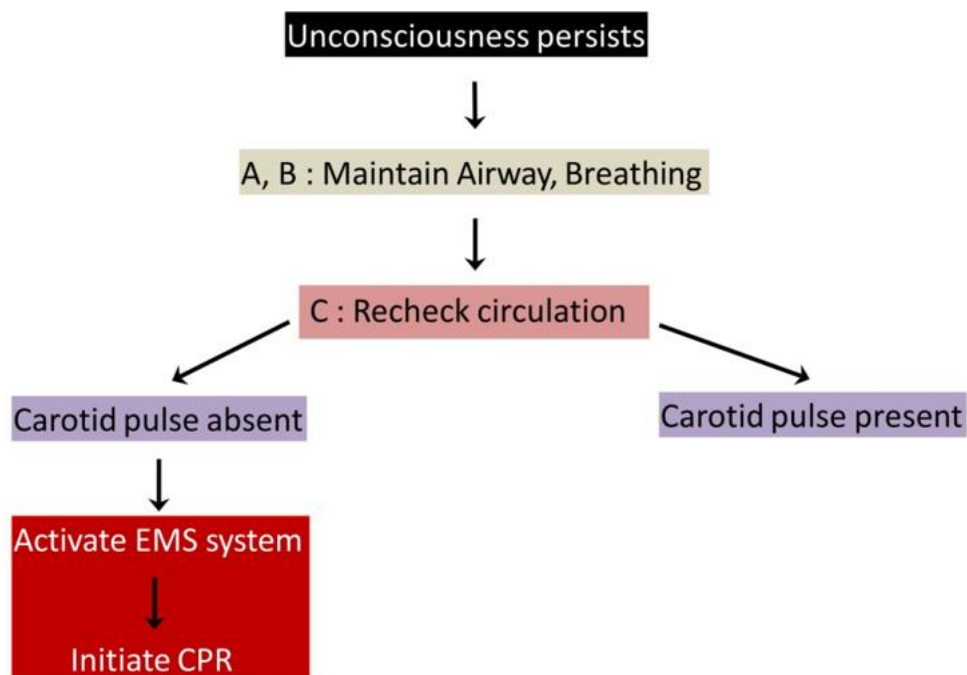
PROTOCOL FOR MANAGEMENT:

- Always follow P-CAB: Position, Circulation, Airway, and Breathing. Previously as it was ABC, it has been changed to CAB because there is enough oxygen in the blood to supply the heart and brain for several minutes after loss of consciousness. In order to circulate and distribute this available oxygen, chest compressions are essential.
- For Bradycardia use 0.6 mg of Atropine IM.
- Naturally occurring compounds tend to synergistically work with multiple pathways and reduce toxicity levels while increasing the quality of life in patients.⁸
- Atropine is one such compound derived from the members of the *Solanaceae* family, the most common *Atropine Belladonna*

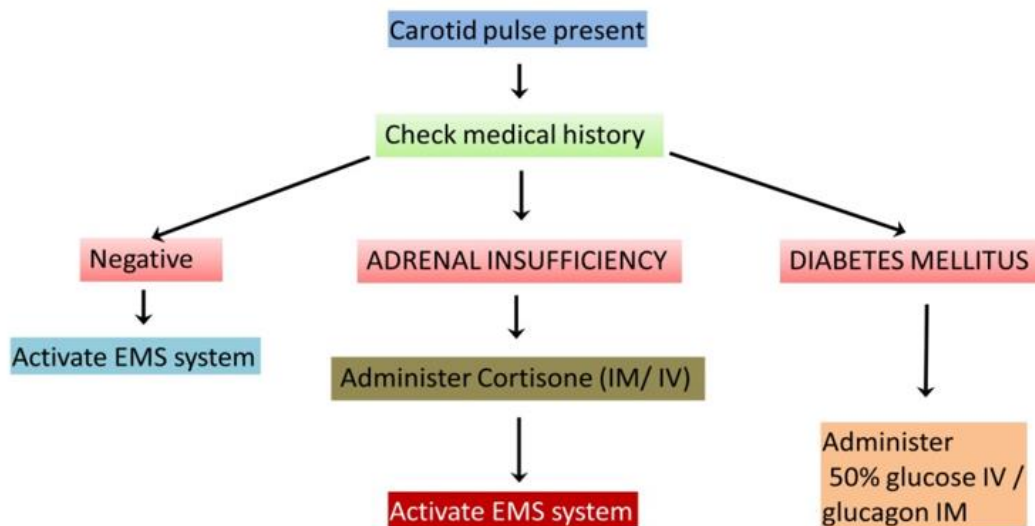


Flowchart 2: Position followed by Basic Life Support (BLS) as needed

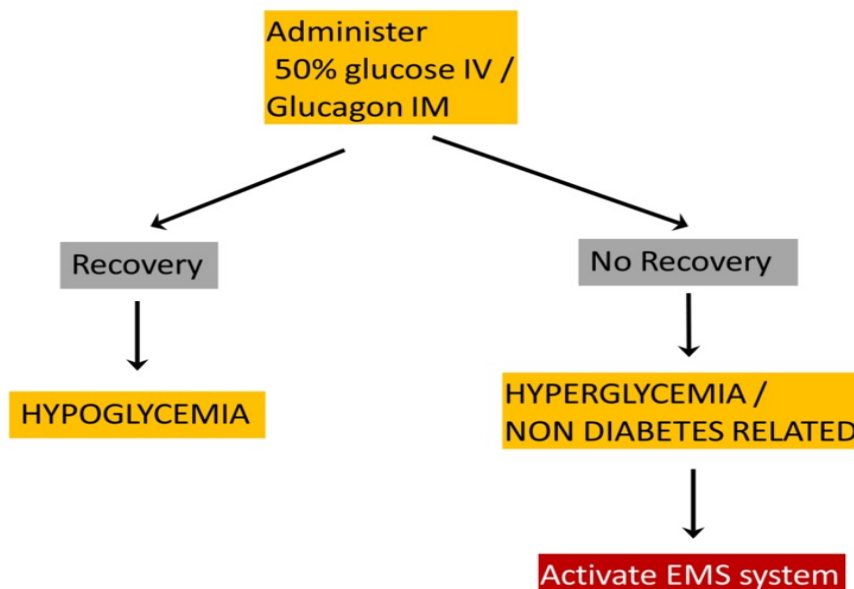
Flowchart 3: Look for recovery



Flowchart 4: Check for pulse and breath



Flowchart 5: If pulse is present then check for medical history



Flowchart 6: Rule out diabetes mellitus

STRESS REDUCTION PROTOCOL:

- a) Premedicate: evening before/just before surgery.
- b) Morning appointment schedule.
- c) Minimize patient waiting time.
- d) Psycho sedation during therapy.
- e) Adequate pain control during therapy.
- f) Post-op pain and anxiety control.

CONCLUSION:

Forty percent of people will experience syncope at some point in their lifespan, making it a frequent clinical issue. Vasovagal syncope (VVS), orthostatic hypotension (OH), and cardiac syncope are the three most frequent causes. Drug administration is not necessary for the immediate management of medical emergencies (BLS is always used first, as needed). Primary management of all emergency situations involves BLS, and when in doubt, medication should not be given.

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