



## Shared Learning

from the Dental Patient Safety Foundation Reporting Tool

“What gets measured gets managed” is the DPSF philosophy to encourage reporting. All received information about patient safety events (unsafe conditions, near misses or adverse events) are de-identified contextually (confidentiality is fully protected under federal law), aggregated, analyzed and abstracted by selected experts from our DPSF committees. Reports are generated and disseminated as the only means to learn from our errors. The information in these peer-reviewed reports is provided for its educational value only, and does not purport to establish any legally binding standard of care. Feedback is encouraged.

### Cases 2018.3: The RED FLAGS of Syncope

**Mary** is an otherwise healthy 19 y/o apprehensive patient about to receive a mandibular block. Immediately after the injection, Mary gets fidgety, complains of nausea, tingling and a warm sensation, loses color in her face and lips, and then falls limp. The dentist tries to open her airway, and is confronted by a stiff, contorted body, followed by a brief salvo of 2 jerking motions of her extremities. Mary awakens, becomes aware that she has “passed out” and then volunteers that this happens frequently during medical care.

**Bob** is a 65 y/o patient who suddenly and unexpectedly falls limp in a waiting room chair. His head hits a corner and starts to bleed. He is placed in a supine position and his airway opened. He slowly “comes out of it”, but remains confused and disoriented. His past medical history is positive for HTN and aortic stenosis for which he takes multiple medications.

#### What we learned / Recommendations and Action:

Both practitioners reported being “uncomfortable” with these scenarios and felt uncertain on how to proceed. The following review will address pertinent issues about transient loss of consciousness (TLOC) and offer guidelines regarding management and triage. It is emphasized that dental practitioners should have a low threshold to contact help in any circumstance in which they feel uncomfortable. **Mary** could have completed treatment on that same day, while **Bob** should have been sent by ambulance to the ER.

**Syncope** is a common presenting complaint, accounting for 1 – 3% of all ER visits. It carries a lifetime prevalence approaching 20%, with many episodes going unreported. Risk stratification for patients who have experienced syncope is complex, even in medical settings, as syncope can be a harbinger for more serious events, including sudden cardiac death. This challenges the dental practitioner to appropriately evaluate and triage the patient, with choices ranging from completing the intended procedure, to aborting the appointment and sending the patient either to home or ER by car or ambulance.

**Reflex (vasovagal) syncope** is an abrupt, transient (brief) loss of consciousness (TLOC) and postural tone, followed by rapid, spontaneous and complete recovery in the absence of any resuscitative effort. It is thought to be a result of neural reflexes going awry leading to inappropriate vasodilation and bradycardia, compromising cardiac output and cerebral perfusion. Two other TLOC syncopal events are cardiac syncope and orthostatic syncope, each carrying more ominous implications. Non-syncopal TLOCs include seizure, hypoglycemia, metabolic conditions, adverse drug interaction, and substance intoxication. In the dental office, usually benign vasovagal syncope is the most commonly encountered type of reflex syncope. However, given that there are other more serious etiologies, it is prudent that the dental practitioner be aware of the clinical features of these possibilities.

**Classic vasovagal syncope** is triggered by emotional stress, pain or medical settings, or prolonged upright positioning. It usually occurs in otherwise healthy, fearful young adults, in an upright standing or sitting position. Most often, there is a warning prodrome, consisting of nausea, sweating, pallor, feeling of warmth, tingling of extremities, “graying out” and/or tunnel vision. This prodrome usually affords the patient a warning, allowing time to brace for a fall, thereby preventing serious injury. If the symptom progresses, inappropriate bradycardia and vasodilation occur, the head might tilt, body contorts, eyes roll back, followed by flaccidity, possibly followed by a few jerky movements of the extremities. Arousal is quick, followed in short order by reorientation as the patient begins to understand what has occurred. Worrisome variations on these “classic” features: the “RED FLAGS” of Syncope, will alert the clinician to the possibility of more serious etiologies, such as cardiovascular disease, hypoglycemia, stroke, seizure, MI, or adverse drug effects.

#### The “Red Flags” of Syncope

Advanced age	Tongue Biting
Headache, chest pain, palpitations or dyspnea	Incontinence
Absence of an identifiable trigger	Injury from fall
No warning symptoms	Prolonged “seizure-like” movements
Any Cardiovascular history	Prolonged recovery, confusion, weakness
Occurs when in supine position	Any accompanying neurologic deficit



The DPSF encourages frequent reporting of unsafe conditions, near misses and adverse events as the only means to close the gap between knowing how to prevent these occurrences and taking the necessary action to do so. Please visit our website.

#### Additional reading:

Adkisson WO, Benditt DG. Pathophysiology of reflex syncope: A review. J Cardiovasc Electrophysiol. 2017;28:1088-1097.

Shen W, et al. 2017 ACC/AHA/HRS Guideline for the Evaluation and Management of Patients with Syncope: Executive Summary. Circulation 2017;136:e25-e59.

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