Managing the Medically Compromised Patient in General Dental Practice – Risk Assessment

Core subject

**Aim:** To provide an outline of the risk factors that should be considered in order to provide the safe management of the medically compromised patient in general dental practice.

**Learning outcomes:** Following the completion of this CPD article the participant will be able to demonstrate, through the completion of a questionnaire, the ability to:

- Identify the increased medical risk the ageing population could present in dental practice.
- Describe important factors that need to be considered when completing a patient risk assessment.
- Identify dental treatment considerations when applying the Physical Status classification system of the American Society of Anaesthesiologists.
- Identify risk factors to consider if a patient has a history of a systemic disease.

**Introduction**

All dental care professionals (DCPs) should be competent in managing common medical emergencies should they occur in the dental practice. Every dental practice should complete a medical risk assessment for every patient. Although this is undertaken by the dental practitioner, DCPs have a responsibility to put patient’s interests first and act to protect them. Therefore, it is advisable for the dental nurse to familiarise themselves with a patient’s medical history.

Each dental practice should have a protocol in place to deal with a medical emergency. Although rare, real emergencies can arise, and it is extremely important that the DCP can recognise the emergence of such a situation and competently fulfil their role in assisting the dentist during an emergency situation. The General Dental Council stipulate that:

- “There are at least two people available to deal with potential medical emergencies when treatment is planned to take place.
- All members of staff, not just the registered team members, know their role if a patient collapses or if there is another kind of medical emergency.
All members of staff who might be involved in dealing with a medical emergency are trained and prepared to deal with such an emergency at any time, and practise together regularly in a simulated emergency so they know exactly what to do." ²

**Aging Population**

Between the years 1985 to 2010, the number of people aged 65 and over in the UK increased by 20 per cent to 10.3 million; in 2010, 17 per cent of the population were aged 65 and over. The number of people aged 85 and over more than doubled over the same period to 1.4 million.³ These figures demonstrate that we are now living in an aging population.

Large numbers of regular medications (a situation known as ‘polypharmacy’) is particularly common among the over 65s in developed countries. Half of these patients will be taking five or more drugs on a regular basis and older adults have been found to suffer from more chronic medical conditions.⁴

An understanding of the most common drugs patients may be taking and the side effects of these drugs can assist the dental practitioner in assessing the patient before commencing dental treatment.

It could be considered that completing a medical risk assessment for this group of patients has become more complex. Patients have developed higher expectations of their dental treatment and dentists are providing increasingly complex treatment plans for this group of patients.

**Patient Risk Assessment**

When assessing a patient four factors need to be considered:

- Medical Status.
- Patient’s emotional status.
- How invasive the required procedure is.
- Other factors to consider such as significant systemic symptoms.
Medical Status

A comprehensive medical history should always be completed for each patient attending the dental practice and this should be checked verbally at each appointment to ensure it is correct and up to date.

Knowledge of the commonest oral side effects of medication can allow us to reassure our patients and help alleviate the discomfort drug reactions can cause. (this will be covered in a future verifiable article). Unfortunately, as our ageing population becomes more and more medicated, this is a problem that we are likely to encounter on an ever increasing basis in general practice. Therefore, up to date medical histories have never been more important than they now are and we should prioritise the time taken to get this information correct.

Patient’s emotional status

How anxious does the patient appear to be? In 1941 by the American Society of Anaesthetists created the American Society of Anaesthesiologists (ASA) Physical Status classification system. The purpose of the grading system was simply to assess the degree of a patient’s "sickness" or "physical state" prior to selecting an anaesthetic or prior to performing surgery. This simple classification system can be used to assess patients for dental treatment.

Physical Status Classification System of the American Society of Anaesthesiologists, with Dentistry Treatment Considerations

<table>
<thead>
<tr>
<th>ASA Physical Status Classification</th>
<th>Dentistry Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A normal healthy patient. None (stress reduction if indicated).</td>
</tr>
<tr>
<td>11</td>
<td>A patient with mild to moderate systemic disease. Possible stress reduction and specific modifications as indicated.</td>
</tr>
<tr>
<td>111</td>
<td>A patient with severe systemic disease that limits activity (is disabling) but not incapacitating. Possible strict modifications: stress reduction, specific modifications, and medical consultation prioritised.</td>
</tr>
<tr>
<td>1V</td>
<td>A patient with severe systemic disease that limits activity (incapacitation) and is a constant threat to life. Strict modifications: practice versus hospital and therapy levels depend upon thorough evaluation: medical consultation urged.</td>
</tr>
<tr>
<td>V</td>
<td>A moribund (dying) patient not expected to survive 24 hours with or without an operation. Treatment in hospital is limited to life support, e.g. airway and haemorrhage management.</td>
</tr>
</tbody>
</table>
How Invasive is the required procedure

The dental practitioner would need to consider how invasive the procedure that the patient requires is and make a decision as to whether the patient’s medical status and ASA rating suggest the patient is able to withstand the stress of the required treatment.

Other factors to consider

The patient may present with other significant systemic symptoms such as:

**Angina**

Angina is a syndrome (collection of symptoms) that is caused when the oxygenated blood flow to the heart is restricted. Patients with a history of angina normally take a medication called Glyceryl Trinitrate which is widely used and provides immediate relief from the symptoms of angina.

The patient could experience breathlessness (orthopnea), chest pain, palpitations and may experience acute episodes of angina which can be caused by stress relating to dental treatment.

**Asthma**

Asthma is a condition which affects a person’s airways, the tubes that carry air into and out of their lungs (bronchi or bronchioles). People who suffer from asthma are sensitive to certain triggers or substances which can cause their bronchioles to become inflamed and swollen reducing the amount of air that can pass through them. Sticky mucous or phlegm may also be produced resulting in the person coughing, wheezing and being unable to breathe.

The patient could experience an asthma attack. During an asthma attack the patient suffers from constriction of the bronchioles of the lungs. Breathing becomes difficult for the patient and they become distressed. If the attack is severe cyanosis may occur with the lips becoming blue.

The risk assessment needs to identify patients with asthma so that precautions can be put into place should the patient become breathless or agitated. Early intervention of the use of the patient’s inhalers and a calm stress free environment can prevent the patient from experiencing an acute asthma attack.

**Syncope (Faint)**

It is estimated that at least one third of all adults will experience at least one fainting episode in their life and people who faint without warning and fall could suffer a serious injury. This is probably the most common emergency in dental practice and is brought about by a diminished supply of oxygen to the brain. Fainting is caused by a short term reduction in blood pressure to the brain which means the cells of the brain are not able to get enough oxygen from your blood to function properly and you lose consciousness.
Patients are often aware if they are prone to fainting, experiencing dizzy spells or blackouts and a risk assessment that identifies this risk can enable the dental team to monitor a patient for signs of an attack and the use of stress reduction techniques which can prevent an attack or alleviate some of the symptoms if a patient begins to experience a syncope.

**Diabetes**

Diabetes is a long-term (chronic) condition caused by too much glucose (sugar) in the blood. It is also sometimes known as diabetes mellitus. Diabetes affects two million people in England and Wales. It is estimated that there are a further 750,000 people who have the condition but are unaware of it.10

A diabetic patient may suffer from two forms of diabetic crisis:

- **Hyperglycemia** - The cause of this may be abnormally high levels of blood sugar. This can be caused by missing a meal or taking the wrong dose of insulin or it can be due to anxiety, stress or not taking enough exercise.11

- **Hypoglycemia** - This is where insulin levels become too high, thereby reducing glucose levels severely due to lack of sugar in the blood. The cause of this may be abnormally low levels of blood sugar usually resulting from excessive insulin or a poor diet.11

Identifying the diabetic patient during the risk assessment will enable the dental team to schedule appointments at suitable time for the patient so that it does not interfere with meal times or medication. The dental team can be aware of the patients needs and make sure they are not kept waiting for appointments.

**Drug history**

The patient’s drug history is an important consideration for the dental team and the following points should be considered:

- Severity – how many drugs does the patient take for same condition?
- Recent medicine change - could this have an impact on the patient?
- Compliance - is the patient taking the prescribed medication regularly?
- Control of the symptoms - are the drugs controlling the patients symptoms?
- Does the patient need residue medication to control their condition and if so how often? e.g. Salbutamol for asthma; Glyceryl trinitrate (GTN spray) for angina.

**Generic risk factors**

- Is the patient a smoker? If so, how many and what type of tobacco?
- High alcohol consumption- does the patient have a high alcohol intake?
Observations

Every risk assessment should include an overall appraisal of the patient. Particular attention should be applied to assess the following:

- Skin - how does it appear? Is the patient pale? Profused (red)? Clamy?
- Weight - does the patient appear healthy and of normal weight?
- Breathing - are they breathing normally?
- Pulse
- Ankle swelling, is the patient experiencing circulation problems?
- Blood pressure, if the clinician has any concerns the patient’s blood pressure can be taken before any treatment is carried out.

When to defer

The dental practitioner may consider deferring treatment following the risk assessment of the patient. This maybe as a result of carrying out the risk assessment or it may be due to the patient reporting a recent acute episode. Treatment may be deferred for 2-3 months or the dental practitioner may decide to refer the patient to a specialist clinic or hospital for treatment.

The patient may simply report that they do not feel they are capable of having the treatment on a particular day.

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Portfolio Tip

Access the non verifiable CPD section and read page 39 of the Resuscitation Council Guidance for Dental Practitioners – an example of a medical risk assessment form.

Review the medical history assessment forms used in your practice, take time to discuss them with your team members and remember this can then be recorded as non verifiable CPD.
References