

Could it be sepsis? New paper to raise awareness among dental professionals

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Every year in the UK 52,000 people die from sepsis – with 14,000 of these estimated to be preventable.

Now a new paper has highlighted what dental professionals need to know about [sepsis](#) and the importance of communicating these signs to patients.

Led by Dr. Cathy Coelho from the University of Plymouth and Melissa Mead MBE from the UK Sepsis Trust, the paper in the *British Dental Journal* details Melissa's first-hand experience losing her one-year-old son William to sepsis in 2014, following several missed opportunities to spot the condition.

Sepsis is a complication that can arise from any infection and signs range from decreased body temperature to a change in mental ability. If caught quickly, it's easily treatable with fluids and antibiotics. If not, it can be fatal.

The signs for dental professionals to look out for are:

- A patient responds only to voice or pain/unresponsive
- Acute confusional state
- Heart rate >130 per minute
- Respiratory rate ?25 per minute
- Non-blanching rash, mottled/ashen/cyanotic
- Not passed urine in last 18 hours
- Systolic blood pressure ? 90 mmHg (or drop > 40 from normal)
- Needs oxygen to keep SpO₂ (oxygen in the blood) ?92%
- Lactate ?2 mmol/l
- Recent chemotherapy

Detailing Melissa's experience, the paper explains how William had had a sudden drop in temperature, was exhausted and wasn't urinating, following a previous diagnosis for a viral bug. Melissa had been advised by doctors that rest was the best course of action.

But in the weeks leading to William's death, he in fact had a bacterial chest infection. When the vomiting started this was the early stages of pneumonia. In the last week or so of his life the [pleural effusion](#) was developing and in the last couple of days of his life, sepsis took over his body.

Melissa has campaigned since William's death to raise awareness of the condition and, after a tooth infection for which she was prescribed antibiotics, she thought about how the condition was addressed in the dental community – and so the collaboration with Peninsula Dental School at the University of Plymouth began.

After meeting with Dr. Coelho, Melissa came to the University's Dental Education Facility in Truro to address fourth-year students about the signs missed in William's case.

Student Neela Venkatasami explained that had it not been for Melissa's lecture and leaflet distribution, she would not have been able to spot

the signs in a patient who presented them. She too is now raising awareness.

"The patient who came in was complaining of pain from an infection. This was treated locally, but as per the current guidelines we didn't prescribe antibiotics as they didn't have a temperature. However, due to swelling and the presence of infection there was a potential risk of developing sepsis. I was able to share the leaflet and advise them to go to A&E if their condition deteriorated. There is a chance sepsis can originate from dental infections and the fact that Melissa made us aware of the warning signs meant that I could inform the patient, and in turn they could seek help. The curriculum has taught us about sepsis, but hearing from someone personally affected brought home the importance of our roles and how we can help more people understand the signs."

The National Institute for Health and Care Excellence (NICE) requires all healthcare professionals, including dental care professionals, to be trained in identifying people who may have sepsis. But the paper highlights how enhancing knowledge about sepsis will help the dental team to educate their patients about sepsis, recognise the pathognomonic warning signs and the need for rapid treatment.

Dr. Coelho said: "The more I got to understand sepsis and look at the literature in the dental journals about the condition, I realised there was a gap. So together Melissa and I wrote this paper to raise awareness among dentists – whether they share the messages with their patients, colleagues or their family, it all helps. I was struck by the number of people who die through sepsis and the fact that it's so easily treatable."

Melissa said: "Many of us have had an infection of some description, but how do we know what 'worse' looks like? I went to the dentist to treat a tooth infection and thought actually, I've just been given antibiotics – there should be some kind of symphony here about what dentists do to help their patients understand signs and symptoms of sepsis."

Since publishing in the BDJ, Melissa has worked

with a number of dental organisations to put together a poster called 'Open wide – just ask, could it be sepsis?', which was distributed to dental practices via NHS England and the Care Quality Commission.

Melissa, who took her son William's ashes as she collected her MBE at Buckingham Palace last month, said: "I don't want anyone to go through losing someone they love to sepsis, but knowing that William's legacy is carrying on and making a difference in dentistry and beyond already is inspirational."

The full paper, titled "Sepsis: the applicability to dental care professionals," is now available to view in the *British Dental Journal*.

More information: C. Coelho et al. Sepsis: the applicability to dental care professionals, *BDJ* (2018). [DOI: 10.1038/sj.bdj.2018.1039](https://doi.org/10.1038/sj.bdj.2018.1039)

Provided by University of Plymouth

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