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# Practitioner's Corner

## 1. WHAT IS THE ROLE OF SUGAR (SUCROSE) IN DENTAL CARIES TODAY?

by P Cleaton-Jones[1], A R P Walker[2], D H Retief[1]

Medicine today is in a ferment as dogma after dogma is questioned. This critical attitude is vital if teaching and practice are to advance satisfactorily. Dental dogma is not immune and dentists must ask themselves if they really know or understand the role of sugar (sucrose) in dental caries.

Modern man's diet has become progressively more sophisticated with increases in the consumption of animal protein, fat, refined carbohydrate foodstuffs, particularly sugar, mineral salts such as calcium and vitamins such as vitamin D; but decreases have occurred in the intake of unrefined cereal foods.

It is well known that accompanying the changes in diet, there has been an increase in dental caries, and an understandable question is — which foods should be blamed for this?

Most dentists believe that the responsibility lies almost entirely in an increased consumption of sugar and sugar-containing foods. But is this correct?

For such a belief to be true, certain criteria, applicable to nutritional diseases, need to be satisfied.

1. There must be proof of a high or increased consumption of sugar and sugar-containing foods. This has certainly taken place; intakes of refined foods, principally sugar and sugar-containing foods, have risen considerably.
2. There must be proof that sugar or sugar-containing foods are involved chemically or microbiologically, or both, in dental caries. This too is true, for none would dispute the experimental evidence on animals and humans that carbohydrate foods, especially sugar and sugar-containing foods, are chemically and microbiologically involved in the development of dental caries.
3. There must be proof that a reduction in the intake of sugar and sugar-containing foods results in a decrease in dental caries. Proof is needed that people eating little of these foods, or reducing their intake, have less caries than those eating a lot. Here, unfortunately, controversy and confusion of opinion prevail. It must be recognized, however, that the results of epidemiological studies have not borne out the results of experimental studies. What emerges from the mass of data is that large reductions in intake of sugar and sugar-containing foods have led to negligible reductions in caries incidence, indeed, never more than one or perhaps two carious teeth per mouth at best.

What does all this mean to the practising dentist? Briefly this. While levels of intake of sugar and sugar-containing foods are not unimportant, they are not the only cariogenic factors involved, nor necessarily those of pre-eminent importance. Accordingly, it is not correct to promise patients or even to imply that a reduction in the intake of sugar or sugar-containing foods would necessarily be followed by a marked improvement in the dental caries situation.

Obviously, much further research is needed, but in the meantime there is no doubt whatever that the consumption of *all* sticky carbohydrate foods, whether sugary or non-sugary, must be restricted, especially when they are eaten between meals or at bed time.

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# Noodtoestande en die hantering daarvan[1] [2]

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Die behandeling wat 'n pasiënt ontvang onmiddellik na die aanvang van akute nood mag die verskil tussen lewe en dood beteken.

Daar is twee sleutels tot sukses in tandheelkunde of medisyne, naamlik

1. Die neem van 'n deeglike mediese geskiedenis
2. Die formulering van 'n differensiële diagnose

'n Deeglike mediese geskiedenis sal u in staat stel om die nodige voorsorgmaatreëls te tref sodat 'n krisis voorkom kan word en dit sal, sou 'n krisis opduik, u 'n diagnostieke riglyn gee.

Met betrekking tot die differensiële diagnose, volg 'n lys van die moontlike noodtoestande waarmee *enige een* van ons te enige tyd gekonfronteer kan word. 'n

[1]Lesing gegee voor die Suid-Transvaalse Tak van die Tandheelkundige Vereniging van Suid-Afrika.
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