In September this year, I spent some time at Otago University with Professor Tagg and his scientists and I learnt some ground breaking news for the treatment of bad breath.

New developments in oral hygiene

by Geoff Speiser
B.D.S Syd Uni.

More on that later, but first some history. In the past few years, a leading microbiologist, Dr Walter Loesche, doing halitosis research, came up with a startling conclusion.

Subjects that suffer from chronic halitosis all have one thing in common; they are deficient in a mouth bacteria called Streptococcus salivarius. This bacterium inoculates our bodies on day one of life, but for some reason, chronic halitosis sufferers tend to lose the bacteria from their normal micro flora. The theory is that the anaerobic bacteria may literally wipe S.salivarius out in certain circumstances.

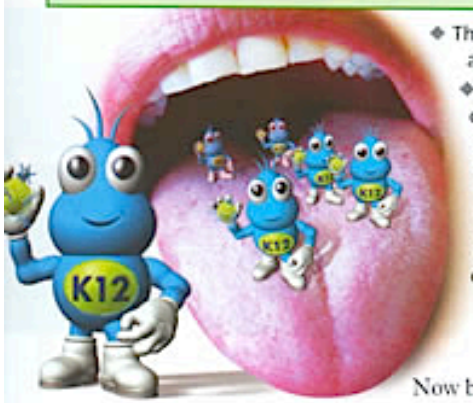
Dr Loesche concluded the following: "Those species most associated with healthy subjects were Streptococcus salivarius."

"Streptococcus salivarius was the predominant species in healthy subjects, as it represented 12% to 40% of the total clones analysed from each healthy subject."

"Overall, the predominant bacteria on the tongue of healthy subjects were different from that on the tongue of subjects with halitosis."

I have summarised the findings of the study in a table below:

	Healthy Subjects					Halitosis Subjects					
Subject Number	H1	H2	H3	H4	H5	M1	M2	M3	M4	M5	M6
Breath Reading	87	160	144	113	132	350	411	452	642	346	749
S. salivarius count	41	24	26	12	12	0	0	0	5	0	6



- The study looked at five healthy subjects and six subjects with halitosis.
- Breath readings were taken, with the definition of Halitosis being a breath reading of sulphur compounds above 200ppb
- S. salivarius counts were also taken, with healthy subjects showing consistently higher numbers of naturally occurring Streptococcus salivarius.

Now back to Professor Tagg in New Zealand. He was also looking at a similar project, but he was comparing sick children to healthy children. He also found that sick children were deficient in S.salivarius compared to healthy children. He managed to isolate samples of S.salivarius from healthy children, and when he examined them he made a remarkable discovery.

Some samples of S.salivarius had a special protein, Professor Tagg called BLIS. This is an acronym for Bacteriocin Like Inhibitory Substances. The BLIS producing bacteria release clusters of molecular missiles, which puncture holes in the surface of competing bacteria. Vital nutrients leak out and the cells starve to death. In fact, Professor Tagg concluded that 1% of the people that carry S.salivarius actually make two different Bacteriocins to defend themselves.

Subjects that have this particular variant of S.salivarius that makes two bacteriocins never seem to get sick. Professor Tagg isolated these bacteria and called it Streptococcus salivarius K12.

Professor Tagg then did further experimentation and found a way to add this helpful bacteria to the ones already present in people's mouths. The BLIS producing bacteria are freeze dried and added to a mouthwash powder that is mixed with water. In the freeze dried state the bacteria can stay alive for over two years. The best time to take the mouthwash powder is when there are as few bacteria in the mouth as possible. This occurrence happens after taking a strong antibacterial knockdown rinse such as Chlorhexidine Gluconate. This leaves the way clear for the BLIS producing S.salivarius to establish themselves.

Trials of BLIS producing S.salivarius on chronic halitosis sufferers have been carried out in New Zealand and the results were remarkable: 85% of subjects returned to normal fresh breath within the week by simply cleaning their tongue and taking the knockdown rinse at the beginning of the week, and following this with a BLIS K12 mouthwash for the remainder of the week. Some of these halitosis subjects had suffered for many years, tried everything available on the market, but nothing helped.

The S.salivarius K12 mouthwash will be available in Australia under the name of KFORCE Clean mouthwash. It has been shown to work with Chlorhexidine Gluconate mouthwash. It can be used with any store bought toothpaste. The only requirement is that the subject must use a tongue cleaner. ◆

If you would like to learn more about KFORCE and BLIS K12, or if you wish to read the full study by Dr Loesche, you can read about it on our website www.breezecare.com