Power: the inputs, the outputs

SADJ March 2019, Vol. 74 No. 2 p51

WG Evans



Power, the word on the lips of every South African today... Power, the motive essential to everyday dentistry... but also how appropriate that the lips are mentioned... how about the **power** of a **smile!** Frustration must have been rampant amongst the profession as the lights went out, the loss of power translating into the loss of time, of service, of money. Stymied were our efforts at producing the Smile that indeed has Power. Meg Selig, psychologist and author, lists several benefits lending Power to a smile... and starts by citing research which shows that Smiling may make you look younger! Not only younger but thinner! She surmises that since a smile lifts the corners of the mouth and the cheeks, a more youthful appearance is produced.[1]

A sense of well being, an elevation of mood, projecting an aura of likeability, attractiveness and competence… all in the Power of exercising mainly the Levator anguli oris, together with Risorius and Zygomaticus minor. Seems a fine bargain... no wonder our patients are eager to achieve that Smile! But the claim for the Power of a smile goes further... apparently a smile can predict fulfilment in marriage, can predict life span and even when you force a smile, it can lead to good things!



Figure 1. Pedal driven drill from the 19th century.
Image source: https:www.liveauctioneers.com

WG Evans: Managing editor, **Email:** bill.evans@wits.ac.za

It appears that the song "Smile and the world smiles with you" indeed carries great truth, **but** in order to produce that smile the Dentist requires Power. That energy was supplied originally by muscle action... the bow drill was used some 7000 years ago in the Indus Valley to drill teeth... cavity preparations of up to 3,5 mms depth have been proved to have been produced by rotating drills.[2]

Mechanical drills such as used in woodwork were in favour in the 18th century in Europe, whilst a clockwork drill was invented by George Harrington in 1864 ...somewhat faster but noisy... and called Erado! Pneumatic drills operated by foot activated bellows followed, and the pedal driven drill arrived in Dentistry in 1871 (James Morrison, inventor).

The first Power drill, motivated by electricity, was patented by Green in 1875. From here developments to faster and more efficient instruments followed apace ...literally, for the air turbine produced speeds of rotation enormously faster than the fastest electric drill… 400,000 rpm vs 3000 rpm.

Today the turbine can rotate at an impressive 800,000 rpm! The first generation air turbine was the initiative of a group of New Zealand scientists who were granted a patent in 1949. The first commercially distributed air turbine was the familiar Borden, introduced by Dentsply in 1957. (I was the first patient at the Wits Dental Hospital to undergo cavity preparation with a Borden, a box which was attached to the cervical arm of the chair... and we produced an exposure! Not an occasion for a smile!).

That Dentistry is a profession wrought by stress is again proven in a paper appearing in the Journal this month. The study went further to identify coping mechanisms amongst the subjects. Exercise and Rest were the most commonly relied upon as stress relievers. Recent experience with load shedding will certainly have raised the already high levels of stress… and may have offered practitioners plenty of opportunities for both these stress breakers.

The profession has a real opportunity to exercise the Power of the discipline when the World Oral Health Day is celebrated on 20th March. The Association has planned a series of events to mark this special event… and details appear in the following pages.

Power has both input and output roles in Dentistry... perhaps a focus on the positives of the output - the Power of a Smile… may offset the frustrations of the (interrupted) input!

References

1. https://www.psychologytoday.com/us/blog/changepower/201605/the-9-superpowers-your-smile.
2. https://en.wikipedia.org/Dental-drill.