



Over the last few decades we have made great strides in our understanding of canal anatomy. In addition, cone beam CT's, digital radiography, enhanced illumination and magnification, thermally treated NiTi files, as well as ultrasonic tips have all greatly bolstered our ability to avoid iatrogenic errors during endodontic treatment. We have tremendous resources at hand, yet even experienced clinicians still create perforations, transportations, and the like more than what we would hope for. It is an apt time to evaluate how subconscious decisions can negate the benefits of our vast technical assets.

Heuristics are subconscious cognitive rules of thumb that allow one to make decisions and judgements quickly. If one were to deliberate every clinical decision, efficient and effective treatment would be contrary to reason. The 'trap' occurs when our conscious critical mind fails to over-rule a hard-wired cognitive shortcut. There are six heuristic traps germane to clinical dentistry:

- 1) **Over Committed:** Once one has decided to treat, subsequent decisions are easier if consistency with that decision is unfaltering. For instance, if it takes longer than expected to find a canal it is easier to keep searching than it is to stop and consider a second appointment, a second opinion, a CBCT, check radiographs, and the like. Remaining loyal to the original plan comes naturally. This heuristic trap can easily lead to a hogged-out tooth, perforation, or patient fatigue. No clinician can successfully complete every case; success may demand a cessation of treatment and further investigation.
- 2) **Familiarity:** Teeth that are familiar appear safe to treat even when they may not be. Our brain creates shortcuts and uses past actions to guide our decisions. A clinical example is the dentist, with twenty years of experience, relying on only one pre-op PA prior to endodontic treatment of a lower molar. The single PA failed to highlight a radix root, making a seemingly routine case exotic for all the wrong reasons.
- 3) **Acceptance:** To perform a task in the hope it will get one noticed or accepted by those that have a position of power or are admired. An associate may tackle an exceedingly tough tooth because the office expects that of its employees. A preference to avoid scorn from an unyielding, yet loyal, patient may gull an experienced dentist to treating a far too taxing tooth.
- 4) **Expert Halo:** We tend to follow a leader, even if this 'expert' may be a false prophet who only shows 'hero' cases, giving an unrealistic expectation of success. Beware of those that can do no wrong or hawk the elixir technique or device.
- 5) **Scarcity:** The propensity to value opportunities in proportion to the possibility that you may lose them, especially to a competitor. A clinical example is a technically challenging tooth needs treatment and the person is motivated for care now. Your schedule is clear and you suspect the discommodious patient may seek treatment from another dentist if you dare to mention a referral to an endodontist.
- 6) **Social Proof:** The tendency to believe that a behaviour is correct because others have engaged in it. For instance, a group of dentists post, on-line, challenging cases they have completed. Members of that group are prone to make risky clinical decisions and will grow more confident about their skills even without hands-on experience.

Being aware of these traps will help good clinicians with excellent technical resources avoid iatrogenic errors and their ugly consequences. Heuristic traps are a blind spot for modern dentistry. Please re-evaluate your conscious and subconscious clinical decisions, more frequently, as they could be leading you astray even on a seemingly routine case.

Regards,



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