

## Consensus – an alternative way to generate Evidence for practitioners to use (or Evidence based revisited)

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Dear Readers,

Clinical dentistry is a difficult topic because little is either black or white, instead there are many, many grey areas. Practitioners and dental students know that if you present a case to 6 different dentists you will probably generate six different treatment plans, five of which will be similar and one will likely be radically different. Therefore, it is understandable to search for guidelines that are based on sound science. The modern way is to look for reproducible Scientific Evidence (Evidence Based Dentistry). As we know from the Cochrane Collaboration, the highest evidence is given by meta analyses of random controlled double blinded prospective studies (RCT), which is called a systematic review. This should eliminate all bias and produce a trustworthy conclusion.<sup>1</sup> Unfortunately, this approach can introduce at least four more fundamental complications:

1. Not every clinical question can be tested with a RCT. Ethical norms and sometimes costs can severely limit the possible options.<sup>2</sup>
2. By limiting the analysis to just RCT and excluding all other information, the analysis is often limited to a few studies with an end result that severely reduces the reliability of the outcome. Often there is no clear evidence of which option to choose and the conclusion of the systematic review is that more research is needed to answer the question.<sup>3,4,5</sup>
3. Sometimes the inclusion-exclusion criteria are so strong that the articles that are problematic are filtered out, thus diminishing the value of the data.
4. Long observation times (e.g. at least 5 years or more) are preferred, with the assumption that the conditions under observation do not change. This may be true if someone is comparing two drugs or two different surgical techniques. But in restorative dentistry things are different. With evidence based medicine, basically a procedure or medication is administered to the human body and the outcome measure is the reaction of the human body, usually over time (e.g. survival of the individual, blood pressure, mobility of an articulation, etc). However, in restorative dentistry the dentist introduces into the oral cavity a foreign material (e.g., a direct restoration, crown, removable or fixed dental prosthesis). The outcome measure is then how this foreign body behaves under stress in the oral cavity. This is problematic, because its behavior is dependent on many factors: for example patients change their lifestyle over time, and this can have a strong influence on the stress level (e.g., diet may change or a divorce may create bruxing habits). Furthermore it is known that the dentist is the most significant variable when looking at the longevity of the restorations.<sup>6,7,8,9</sup> For these reasons, I personally think that this approach may not be the best, when it comes to giving practitioners the most trustworthy information how to best carry out certain procedures.

Since 2014, I have participated in four “Northern Lights Conference”, key opinion leader conferences held at Dalhousie University in Halifax organized by Dr. Richard Price. So far the objective has been to obtain a consensus about a topic related to light curing. Dr. Richard Price’s recipe is simple and successful. He brings together groups of individuals with high knowledge and diverse interests: Members of the industry who manufacture light curing units and resin

composites, university professors researching and teaching light curing and composites, dental practitioners using these techniques and materials and editors or communication specialists who want to disseminate important information. As a first step, experts present the state-of-the-art knowledge to be discussed. Then in a very open atmosphere the facts are discussed under every possible aspect and finally conclusions are formulated, again in an open discussion forum that takes into account the diverse points of view of the different individuals belonging to different interest groups. It was always very interesting to observe how shifts occur in all directions so that the group could come up with a consensus that was first formulated verbally and later on converted into a more graphic internationally understandable way using pictograms. After the conferences, these consensus papers are circulated among the participants, for fine tuning before they are published.

Consensus was obtained and published in 2014 and 2015 on how to use curing units to optimize their efficiency. The group discussed the performance of light curing units following the same scheme and guided through discussions by Dr. Richard Price and his team. The resulting consensus was summarized again in a simple graphic display that fitted onto one page. Furthermore, the consensus information was published in the *Journal of Adhesive Dentistry*<sup>10</sup>, *Operative Dentistry*,<sup>11</sup> the *Journal of the Canadian Dental Association*,<sup>12</sup> *Dental Materials*,<sup>13</sup> *Revista Brasileira de Odontologia*,<sup>14</sup> *Revista APCD de Estética*,<sup>15</sup> *Quintessenz*<sup>16</sup> and the *Dental Advisor*.<sup>17</sup>

By November 2016, bulk filling composites had become quite popular, and this triggered the group to examine if light curing of bulk fill composites was different from regular composites. After long discussions, a consensus was finally reached that has already been published in the *Canada Dental Association Oasis*.<sup>18</sup>

The topic this year was dealing with the influence of light curing on adhesion. Since the meeting has only recently taken place, the consensus is still in its state of being formulated and refined by the group.

This novel approach of key opinion leaders, researchers, educators, academics and manufacturers who all got together and came to a common consensus has proven to be successful. Based on the dissemination of the information on all possible channels, including social media, practitioners are becoming aware of the problems associated with inappropriate light curing, and more dental schools are explicitly teaching the nuances when it comes to light curing of resins. Thus, based on common sense, worldwide the quality of resin composite restorations should improve. However, the proof of this must come from longevity studies based on large population samples.

Sincerely yours,  
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References

1. Layton D. A critical review of search strategies used in recent systematic reviews published in selected prosthodontic and implant-related journals: Are systematic reviews really systematic? *Int J Prosthodont.* 2017;30(1):13-21. doi: 10.11607/jip.15193. Review. [PubMed] Google Scholar(4) Scopus(2)
2. Roulet JF, Friedmann A. Evidence based – eine Medaille mit 2 Seiten. *Prophylaxe Impuls* 2015;20:15. Google Scholar(1)
3. Hayashi M, Yeung CA. Ceramic inlays for restoring posterior teeth. *Cochrane Database Syst Rev.* 2003(1):CD003450. doi: 10.1002/14651858.CD003450. Review. [Full text links] [PubMed] Google Scholar(24) Scopus(12)
4. Pol CW, Kalk W. A systematic review of ceramic inlays in posterior teeth: an update. *Int J Prosthodont.* 2011;24(6):566-575. Review. [PubMed] Google Scholar(26) Scopus(11)
5. da Veiga AM, Cunha AC, Ferreira DM, et al. Longevity of direct and indirect composite restorations in permanent posterior teeth: a systematic review and meta-analysis. *J Dent.* 2016;54:1-12. doi: 10.1016/j.jdent.2016.08.003. Review. [Full text links] [PubMed] Google Scholar(17) Scopus(8)
6. Karaman E, Yazici AR, Alsay B, et al. Effect of operator variability on microleakage with different adhesive systems. *Eur J Dent.* 2013;7(Suppl 1):S60-65. doi: 10.4103/1305-7456.119075. [Full text links] [Free PMC Article] [PubMed] Google Scholar(5) Scopus(3)
7. Demarco FF, Correa MB, Cenci MS, et al. Longevity of posterior composite restorations: not only a matter of materials. *Dent Mater.* 2012;28(1):87-101. doi: 10.1016/j.dental.2011.09.003. Review. [Full text links] [PubMed] Google Scholar(44) Scopus(263)
8. Laske M, Opdam NJ, Bronkhorst EM, et al. Longevity of direct restorations in Dutch dental practices: Descriptive study out of practice based research network. *J Dent.* 2016;46:12-17. doi: 10.1016/j.jdent.2016.01.002. [Full text links] [PubMed] Google Scholar(21) Scopus(15)
9. Smales RJ. Longevity of low- and high-copper amalgams analyzed by preparation class, tooth site, patient age and operator. *Oper Dent.* 1991;16(5):162-168. [PubMed] Google Scholar(22) Scopus(16)
10. Roulet JF, Price R. Light curing - guidelines for practitioners - a consensus statement from the 2014 symposium on light curing in dentistry held at Dalhousie University, Halifax, Canada. *J Adhes Dent.* 2014;16(4):303-304. doi: 10.3290/jaad.432610. [Full text links] [PubMed] Google Scholar(8) Scopus(4)
11. Platt AJ, Price RB. Light curing explored in Halifax. *Oper Dent.* 2014;39(6):561-563. doi: 10.2341/1559-2863-39.6.561. [Full text links] [PubMed] Google Scholar(6) Scopus(3)
12. Price RB. Light curing guidelines for practitioners: a consensus statement from the 2014 symposium on light curing in dentistry, Dalhousie University, Halifax, Canada. *J Can Dent Assoc.* 2014;80:261. [Full text links] [PubMed] Google Scholar(7) Scopus(6)
13. Watts DC. Let there be More Light. *Dent Mater.* 2015;31(4):315-316. doi: 10.1016/j.dental.2015.03.001. [Full text links] [PubMed] Google Scholar(2) Scopus(1)
14. De Assis C. Instruções e cuidados com a fotopolimerização do dia a dia. *Rev Bras Odontol.* 2014;71(2):172-175. Google Scholar(1)
15. Price RB, Rueggeberg FA, Correa IC, et al. Consenso de 2015: Dicas para ajudar a escolher seu próximo aparelho de fotocuração. *Revista APCD de Estética.* 2016;103(04):71. Google Scholar(1)
16. Hiekel R, Pfeifferkom F. Die Lichthärtung - Ein Leitfaden für Praktiker: Konsensus des Symposiums zur Lichthärtung in der Zahnmedizin 2014 an der Dalhousie-Universität in Halifax, Kanada. *Quintessenz* 2015;66(2):141-143. Google Scholar(1)
17. Price RB. Curing light considerations. *The Dental Advisor.* 2015;32(7):2-7. Google Scholar(1)
18. Price RB. Consensus Statements on Bulk Fill Resin Composites. CDA Oasis discussions. [Internet: available <http://oasisdiscussions.ca/2017/06/07/csbj/>] Last accessed 8th April 2017. Google Scholar(2)