1. in the first clinical case where you showed caries in a lower molar, was there any apical area around the roots?

   There was a widening of PDL and as I mentioned in the webinar it was actually tender to percussion too. Sometimes the inflammatory products can reach the periapical area causing slight inflammation and PDL widening without actually pulp necrosis. This can be confirmed with direct inspection of the pulp. In this case the pulp was not bnecrotic and I could stop the bleeding in less than 5 minutes as per ESE guidelines, so I decided to go ahead with VPT and it has been successful so far.

2. how can we diagnose when we don't have microscope to actually visualise the pulp whether it's healthy or not?

   It's very important to use some sort of magnification. If not microscope, I would strongly recommend investing on a good pair of loupes with high magnification(X5.5 above)

3. for non-spontaneous-symptom patient with extremely deep caries, VPT or selective caries remove which one will be a better choice ?

   In extremely deep caries, the possibility of pulp exposure is high. In these case with the pulp exposure, non-selective caries removal followed by VPT is recommended upon the condition that there will be bleeding on the sight of the exposure(meaning the pulp is vital) and it can be stopped with Hypochlorite saturated cotton pellet in about 5 minutes (meaning that it's not irreversibly inflamed) as per ESE guidelines. I strongly recommend reading the ESE position statement on managing deep and extremely deep caries.

4. What about the chalky enamel caries on the base of deep class 2 cavities should we remove if it goes subgingival

   Yes, enamel is where we get out peripheral seal with is extremely important and bonding to enamel is far stronger than to dentine. Therefore, we need to make sure that we have sound enamel to get the bond and peripheral seal from.

5. After selective caries removal, we leave leathery/firm dentin on pulpal floor only the caries on the interproximal walls has to be completely removed yes..?

   Yes, the main reason for selective caries removal is to avoid pulp exposure. We are extremely relying on peripheral seal and that cannot be achieved

unless we remove to hard dentin in the periphery in order to get the good bond and good peripheral seal.

6. before placing dycal/biodentine, is there backed up research to use c chlorhexidine (CHX) and hydrogen peroxide using cotton pellet to clean cavity increases chances of success

   First of all dycal(Setting calcium hydroxide) is not recommended for in deep caries and extremely deep caries anymore. So we are allowed to use only Calcium silicate material such as biodentine when there is pulp exposure or Glass ionomer or calcium silicate material when there is no pulp exposure. Not dycal or composite.

   The best material to disinfect the cavity, recommended both by ESE and AAE is sodium hypochlorite.

7. At what stage of the pathway from reversible pulpitis to irreversible pulpitis can you not use Biodentine what if the tooth is ttp with pulpitis pain but no radiographic PARL

   This is the dilemma of making the decision. It is very difficult to accurately make the diagnosis of the pulp status and therefore we need to rely on some crude methods and surrogate end-points to make the diagnosis and we can be wrong. An this is why it's extremely important to have this discussion with the patient and have the consent signed that it may need RCT and also important to follow-up. Sometimes even in the presence of TTP, the pulp is still alive and has the potential heal as indeed in did in the first case I showed. I strongly recommend following ESE guidelines to make the diagnosis.

8. Do you warn patients of post op pain, what do you do with pulpitis tooth which when you open up the pulp is necrotic with no bleeding.

   The discussion with the patient before the treatment is crucial. They need to be fully informed that they may experience pain and also that the VPT may fail and need conventional RCT. Consent and follow-up is extremely important. If there is no bleeding at the sight of the exposure, provided that the examination before the treatment put the case in VPT category, positive response to sensibility testing, no spontaneous pain, no PA radiolucency, I cut the pulp more until I reach the healthy pulp or do full pulpotomy. If the rest of the pulp or the radicular pulp is also necrotic and there is impaired bleeding I do conventional RCT.

9. Do you irrigate or scrub cavity with cotton pledget soaked in hypochlorite or how long do you leave the cotton in

   Yes, It's very important to lavage the cavity with sodium hypochlorite, it can significantly increase the success rate based on recent studies that I showed in my lecture.

   In order to stop the bleeding at the exposure sight, based on ESE, it should be achieved in about 5 minutes. If it takes too long, it means that the pulp is very inflamed, we should either cut more of the pulp tissue until we reach where we can stop the bleeding tin 5 minutes or do conventional RCT.

10. Any tips for using Bioroot flow and which endo files do you recommend?

    I use different file systems for different cases.

    Bioroot flow is used as any calcium silicate sealer. First injecting into the canal carefully, and then putting some sealer on the GP point and inserting into the canal. There are a lot of tips but that's really a subject for a full lecture. lol

11. Do you have any molar isolation tips with deep class 2

    Best way is to restore before starting the RCT in order to have a better isolation.

    But I do the restoration under isolation too, as I use composite and good isolation is crucial. I sometimes use the clamp on the distal tooth so that the clamp is not in the way for the sectional matrix. Sometimes I use the clamp itself to hold the matrix. It's really tricky. After the proximal wall is restored a single-tooth isolation can be easily achieved.

12. why do you use self-etch with flowable composite and not regular etch

    Because with etch and rinse the acid is stronger and it's not a good idea to use strong acid with calcium silicate cements. Furthermore the process of rinsing may disintegrate the freshly-placed biodentine as it's final setting time takes hours. After placing flowable composite when biodentine is covered it's ok to use etch and rinse.

13. When using and justifying use of Biodentine what is important to include in your records keeping medico legally, are there any videos for patients to watch, how do you get consent and what do you say is the success rate and what do you charge?

    Wow, that's a long question. Lol

    It's important for the patients to know that VPT may not work and there may be need for conventional RCT. Also that there maybe pain.

    In terms of charging it's very different for different people.

Hopefully I will make that video very soon.

14. What are your favourite endo instruments and materials I can use to improve my endos

    I use variety of instruments. I like flex-o-files, D-Finders and C-pilots as hand instruments

    And Zarc and Protaper Ultimate for rotary

15. Do you have a protocol which we would be able to use as a GDP?? Excellent presentation very insightful and informative and what a fantastic material we have bought the machine and looking forward to using it.

    Thank you very much for the kind words. I personally follow ESE protocol. I have asked Jake to attach the protocol to this email. I will soon have a live on my instagram @endoacademy for questions and answers and I will talk about the protocol as well.

16. What protocol for a hot pulp and can we use Biodentine

    Diagnosis is the most difficult stage and it must be done based on history, clinical and radiographic examination.

    I follow ESE protocol

17. What are your favourite rubber dam clamps

    I don't really have a favourite. I prefer to have a variety of them as each case is unique, so I will have the option of choosing the right one.

18. How soon after can you cuspal coverage

    I personlly prefer for the first review. However if the case is in higher danger for fractures, I may recommend the cuspal coverage sooner.

19. What sealer did you use along side the BioDentine, when used to obturate the canal? Thanks you!

    Any calcium silicate sealer can be used. You can use bioroot flow

20. For apical plug, what size of apical gauging would you decide if we can use biodentine or MTA?

    Anything over 70 minutes, I prefer to use plug. In immature teeth, regeneration.

21. i have used biodentine in UR7, where partial pulpotomy was carried out. tooth had no periapical pathology prior to treatment. the tooth was vital , had deep caries. following the biodentine patient has nil symptoms but the tooth is non vital now. patient is 47 years old. Do i just monitor this tooth or should i proceed with RCT? is there a risk of external inflammatory resorption if RCT is not done. thank you.

    Sometimes the negative resposne is false and it's due to partial pulpotomy or full pulpotomy or calcification following the placement of biodentine. I would not do RCT based on negative response alone. You should combine clinical and radiographic findings to make the decision. However, I would definietly follow in closer intervals.