Mesial Occlusal or Distal Occlusal Fillings after Pulpotomies

A discussion among dental professionals on the message boards of Dentaltown.com. Parents object to the appearance, dentists look for reasons not to do them, but stainless steel crowns are still the standard of care after a pulpotomy. Read this engaging debate to understand both sides. Log on today to participate in this discussion and thousands more.

sddds
Post: 1 of 88
Posted: 2/24/2007
Total Posts: 217

I know this has been discussed before, but I just wanted some more opinions. I graduated in 2004 and was trained to do SSCs [stainless-steel crown] after all pulpotomies. Now that I have been in the "real world," I am curious about the subject. On very decayed teeth I have no problem with a SSC, but what about the ones we all see, with that DO [distal occlusal] or MO [mesial occlusal] that go straight to the pulp and once the decay is gone and access for the pulpotomy is made, there is a lot of healthy tooth structure left? I have to be honest, I feel a resin or glass ionomer under nice RDI [rubber dam isolation] might be a valid option, especially if the patient is eight or nine years old and may exfoliate the tooth in the next couple of years. I recently did this on two patients on lower first molars and I guess I don't see the problem with it. Also, I am not asking because I don't like to place SSCs. I am not the quickest at it, but I don't mind doing them. I would appreciate any helpful advice or criticism about this. Thanks in advance. ■

drtommymurph
Post: 2 of 88 ▪ Posted: 2/24/2007
Total Posts: 724

I hate them and I have not done any since I graduated in 1993. I have done thousands of pulpotomies and composite fillings of various sizes over them and have not had any problems with longevity issues. ■

oliolioli
Post: 10 of 88
Posted: 2/25/2007
Total Posts: 655

Short answer is you need to do stainless-steel crowns because every pedodontist will clobber you if you do otherwise. A more detailed answer would be that a lot of GPs [general practitioners] do the multisurface composites/amalgams and have had success, which obviously is quite possible if the tooth only has a few years before exfoliation. In my own experience, primary first molars are a problem tooth for direct composites/amalgams either with or without pulpotomies. ■ Dr. Oliver Lawrence Jones, BDSC

sddds
Post: 13 of 88
Posted: 2/25/2007
Total Posts: 217

I understand the sides of this argument and it has been discussed on different threads, but my original question is, is it really that bad to do them on teeth that have the "smaller" MO or DO preps? I always make sure that the treatment plans and treatment I do would be what I would do on myself and family. I have a two-year-old son and if he would ever need a pulpotomy and there was not a huge loss of tooth structure I would place a composite or GI [glass ionomer] and not think twice about it. The two I did this way in the above post were done under RDI. I don't understand why those of you against placing a filling automatically think these will fail? I am not saying that SSCs aren't the best treatment, but wouldn't a well-placed fill under isolation be a very close second (and again I am talking about a small lesion tooth that needs a pulpotomy)? And if not, why do you think they fail (if done under RDI)? Thanks again for the responses. ■

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callahancs
Post: 14 of 88
Posted: 2/25/2007
Total Posts: 946

The evidence shows that the best chance for pulpotomy success is with SSC. If you do enough pulpotomies, you *will* see failures. If I'm doing several hundred a year, I'll keep more stomach lining with five-percent failure than 40-percent failure. That's why I restore them with SSCs. I have no doubt that your composites can look great for several years. That great looking composite is small consolation when it is sitting between the beaks of your forceps. BTW [by the way], SSCs won't go bad or expire; buy a starter kit and you're set for years. ■ Clint

molrman-tfb
Post: 18 of 88
Posted: 2/25/2007
Total Posts: 173

If I decide not to do a SSC on a primary molar that has had a pulpotomy/ectomy, I cover the canal orifices with glass ionomer (like Fuji II or Fuji IX GP), or even with a good compomer with bonding, and then restore with composite. Of course this depends upon how much tooth structure remains, and how long the tooth is expected to remain. Since 1992 I have been doing this when I felt I could, and I have had failures, especially when I was placing composites over IRM, or anything else with eugenol. It can and will cause debonding (in my experience/opinion). I think part of the problem here is that SSCs are a "bread and butter" restoration for the pedodontist. SSCs are more likely to survive the natural life of the tooth, if done well! You can't have huge overhanging margins! Of course you'll have recurrent caries then, not to mention perio problems and the fact that SSCs are still taught as a capital T "truth" that you don't mess with in pedo programs and dental school alike. I don't do them every time, as most pedo specialists recommend, and I am happy with my success. The bonding technique, materials and occlusion must be near perfect, or you'll wish you'd done a SSC. This is just what works in my hands. ■ Thomas F. Brickey, DMD

stark10
Post: 32 of 88
Posted: 2/26/2007
Total Posts: 256

Hello sddds. I understand your questions and I think that most of us who have done a residency in pediatric dentistry have had some of the same questions and thoughts at one time or another. Here goes.

1. Most pediatric dentists use RDI for everything, so isolation isn't a reason why we don't do resins over pulps.
2. Most of us would also practice the same way on our patients the way we would on our family members (that is just part of being a good doctor). However, if it is my two-year-old, I would only want to give him a shot and drill on his tooth once, so I would be giving him a crown.
3. You are correct in saying that the SSC is the best treatment option and there are many reasons why this restoration has stood the test of time.

- Tooth morphology. Primary teeth have broad proximal contacts and narrow occlusal tables. When you remove all of the decay adequately (I use a caries detecting agent) there is usually considerable loss of tooth structure.

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- Bonding to primary tooth dentin is not very predictable. If you must do the composites, at least do the Class II sandwich technique with a glass ionomer, since you will probably get less coronal leakage.
- Coronal leakage is the biggest reason for failure after pulpotomy. If you were to extract all of the failed pulpotomies, section the teeth and look at them under a microscope you would find that in most cases there was microleakage of bacteria that caused the failure.
- SSCs don't really leak as much as one of the other posters suggested. I have yet to see decay under a SSC on a primary tooth unless the margin is supragingival. It is difficult for bacteria and substrate to get 3mm subgingival to the crown margin and then get into the tooth, which is usually covered with glass ionomer cement. Now, I have seen recurrent caries on permanent tooth SSCs with crappy supragingival margins, but that is another story.

4. Many of us spend a lot of time doing SSCs on failed Class II composite or alloy restorations. We have the mindset that if you are going to give the kid a shot and put the handpiece on the tooth, we are going to place a restoration that is going to go the distance.
5. Be careful with what you think is a conservative approach. ■ Tom

drentondmd
Post: 39 of 88
Posted: 2/27/2007
Total Posts: 782

I have never restored a primary tooth with pulpotomy with a SSC in 17 years of private practice. No regrets. And here is the really scary part; I fill them with mercury fillings. Granted, I am not a pediatric dentist and don't see the really badly broken down teeth, I refer those. But, the original premise of this thread was about restoring these teeth that have a relatively conservative access. That is what I see mostly, as do many of the other GPs, and I know from my experience a simple MO or DO restoration works just fine. ■ David A. Renton, DMD

mlboyd
Post: 48 of 88
Posted: 2/28/2007
Total Posts: 928

It's a tooth, it's not a heart or a brain. Most pediatric dentists are doing this on two-to-six-year-olds with bad hygiene and much decay. So, yes a SSC is the best option. I don't know for sure, but I would bet that the people placing resins are doing them on eight to 10 year olds. So, the time in the mouth is less, which leaves less time for the tooth to abscess or fail. I have on occasion placed a resin over a pulpotomy in an older child of eight or nine years old. I have seen them last and I have seen then abscess. The case selection is the most important factor in either group. ■ Lee Boyd, DMD

thisisit
Post: 59 of 88
Posted: 3/3/2007
Total Posts: 1,874

This discussion is like the "rubber dam or not" when doing endos. Both sides can argue it to death. My point is that the dental schools are teaching it (SSC and endo with rubber dam), the specialists are doing it, so then it must be considered "the standard of care." Who cares who is right or not. Do you really want to go against all the "experts" from dental schools and argue this in front of a judge? You'll lose any day. In our litigious society, if you want to play the game, play by the freaking rules. Do I like placing rubber dam before endo or use SSC on a screaming six-year-old? No. Am I good at it? Sure. You have to learn to do it fast and efficiently and then you would not mind doing it. It takes me less than a minute to place the rubber dam these days and less than five minutes to do a SSC. The rubber dam thing is just practice. 3M has SSC I order for the pedodontist in my practice that can rock your world. Very little adjustment is needed once you find the right size. I do prep the tooth though. ■ Bob

I see a few myths/pseudo myths on this thread. I hope not to detract from the lively discussion, but here's my two bits.

1. The term "full-coverage" has been used here respecting restoration of endodontically treated posterior teeth. This is somewhat correct, but misleading. The AAE [American Association of Endodontists] recommends "cuspal-coverage," which includes, but is not limited to "full-coverage." The key ingredient to this type of restoration is some restorative material shoeing or covering the cusp. It is not necessary to provide full-veneer coverage to reduce the risk of tooth fracture.
2. Earlier, full-coverage restorations were advocated because they prevent contamination of the root canal treatment. See paragraph one above. The contamination is prevented by a core that seals the obturated canal system. This could be a glass ionomer, composite, resin-modified glass ionomer or amalgam. In addition to this seal, those teeth susceptible to fracture would benefit from cuspal coverage.
3. The benefit of a pedo SSC is that it basically limits failure of the tooth to one source failure of the pulpotomy. I don't know why people bring up periodontal concerns about the SSC. Find a radiograph showing the margin of a SSC causing any kind of periodontal problem. I believe that would be very rare and isolated. Children have a completely different periodontal condition than adults. In fact, show me an abscess from a SSC, not the failed pulpotomy. I would be interested in knowing if this happens. I really don't know. Could a bad margin on a SSC (one where no effort was made to trim or crimp it) cause a perio abscess/infection? ■ Scott Weed, DDS

weeddds
Post: 66 of 88
Posted: 4/24/2007
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whitecusp8
Post: 68 of 88
Posted: 4/25/2007
Total Posts: 439

I find two contradictory issues in these threads. Why would you do composites on deciduous teeth? Aesthetics? Conservative preps? Amalgam is bad for children? If aesthetics is the concern, then why would you do SSC? Is there another alternative to SSC? I have had a mom who was upset that the pediatric dentist did the SSC on her kid because every time she talks or laughs it shows. She hated it, but I told her that it's the best solution for her daughter. ■ Phil

qdog
Post: 70 and 78 of 88
Posted: 4/25/2007
Total Posts: 245

I wouldn't place composite over the orifices. I'd remove the coronal pulp, use ferric sulfate or formocresol, followed by IRM, Tempit or ZOE [zinc oxide-eugenol] (all three work well). Then, seal with a SSC. With a success rate in the 90th percentile across procedures in dentistry I wouldn't recommend any other way.

On the other note, when doing a pulpotomy, you place IRM or ZOE in the pulp chamber, correct? OK, take composite or amalgam and place over the IRM/ZOE, whether it be an MO, DO, MOD or whatever. Tell me upon thinking back to your dental materials class how the composite or amalgam will not leak and then fracture due to differences in hardness, coefficient of thermal expansion, etc. Anyone who says they do it all the time with no problems is lying to themselves. In the era of braces (metal everywhere) who cares if someone sees a SSC? Like I've said before, put caries on the distal of #L to the pulp in either my daughter or son's mouth and I'll do a pulpotomy with ferric sulfate, place Tempit and place a SSC with glass ionomer cement and never lose a minute's sleep. ■

kiddent
Post: 79 of 88
Posted: 5/1/2007
Total Posts: 242

It always amazes me when parents make a stink when I mention SSCs, when at the moment their kid has brown stumps as teeth. That's especially true when it's #D-G and they are to the point where they have to come out. When I mention extractions as the likely treatment, they freak out. Personally, I'd much rather my child look like a normal toothless child than walk around with brown stumps up front, but hey, to each his own. Placing SSCs over teeth with pulpotomies comes down to whether or not you are going to let the parent dictate your treatment. I haven't yet and hope when I get into private practice I will be able to say the same. ■

qdog
Post: 80 of 88
Posted: 5/2/2007
Total Posts: 245

That's the only way to practice, kiddent. You tell them what you are going to do because it's the best treatment, if they don't like it they can go somewhere else. You'd be amazed at the fact that you'll only have one in a 100 ever question your judgment and say what they want. I expect the odds to get even better the longer one practices. ■

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