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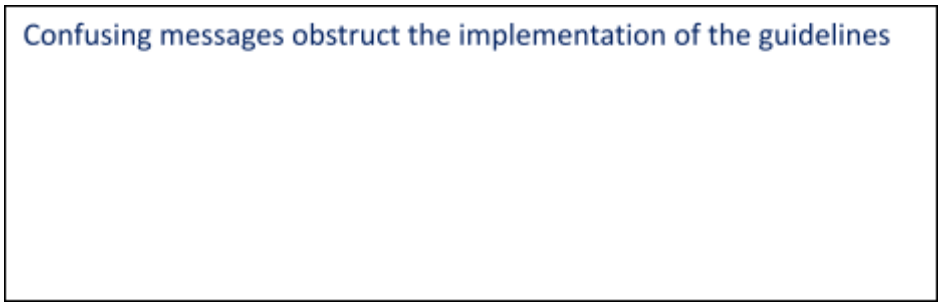
“I hope that colleagues will become increasingly committed to effective oral care for children”

Almost everyone in oral care knows René J.M. Gruythuysen (77) as the tireless dentist-publicist with a rock-solid and always critical opinion, which he passionately interprets in the oral care debate and beyond. He already spoke about his beliefs and motivation in an earlier extensive interview in Dental Tribune and contributed to numerous publications, including for AccreDidact. But recently René told us that he is ill. Seriously ill. Nevertheless, he thinks it is important to speak out once more about his concerns about pediatric dentistry. “There are still too many confusing messages with double meaning being delivered.”

At first glance, not much has changed about René Gruythuysen when I visit him in his apartment in The Hague, three years after the previous interview. But René speaks softly and moves slowly, unmistakably he has lost kilos. The metastatic cancer has reached his spine and bones, life-prolonging treatments have not worked well enough.

Another in his position might bury the hatchet, but 'Gruyt' certainly does not: he continues to stir because, in his opinion, adequate care is not provided in many practices. After the cake has been placed on the table, a pile of papers immediately follows. Of course we are talking about pediatric dentistry, in which there are still many differences of opinion.



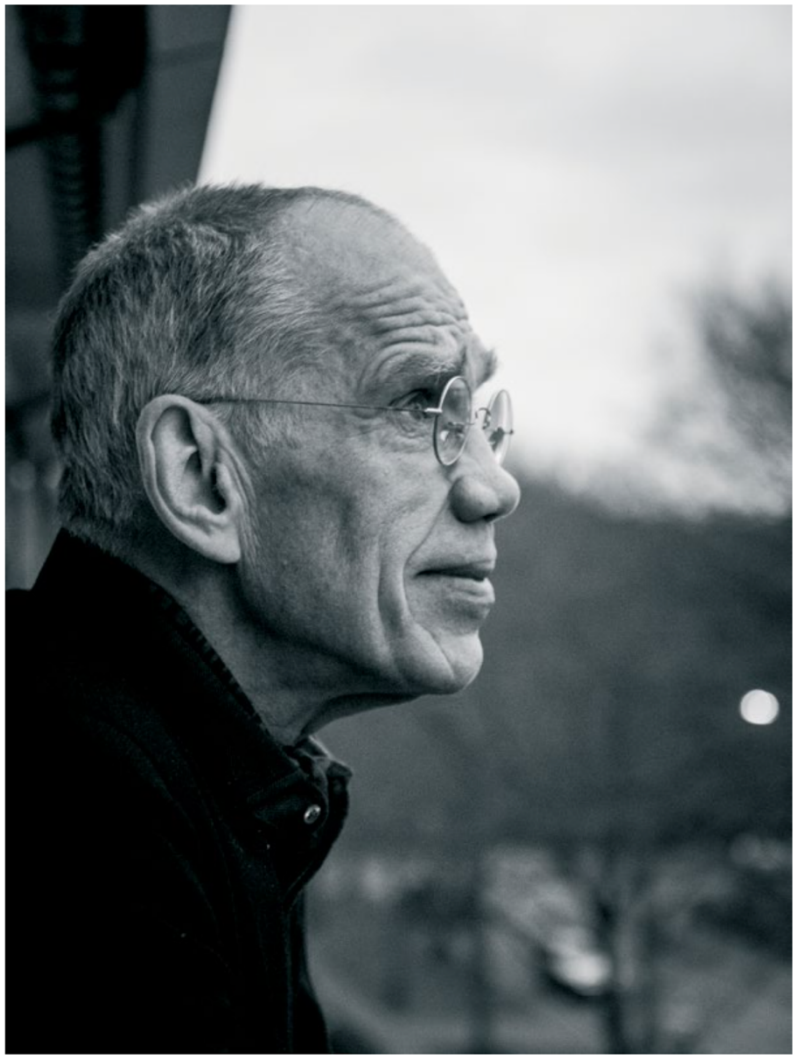
In the previous interview we discussed the substantive disagreement that still occurs in Dutch pediatric dentistry. Has the – after all quite unambiguous – Clinical Practice Guideline Oral Care for Youth from 2020 led to more agreement?

When that guideline was published, there was hope that a lot would change in pediatric dentistry. But that didn’t happen. Strangely enough, children’s interests are still a neglected theme in pediatric dentistry. The universities have not yet taken up the new insights sufficiently visibly, as have most pediatric dentists. Unfortunately, the promise of cooperation with the UMCG (Groningen University) a few years ago has not led to any improvement of the situation, rather the opposite. The postdocs at ACTA often do internships in *‘old school’* practices, simply

because there are not enough alternatives. Nevertheless, there are people in ACTA's leadership and in the department who want to do things differently and there is now also a postdoc working on a case publication on causal therapy. Another small bright spot is the explanation of the NRCT concept from ACTA in the NTVT DentTalk webinar about the guideline.

Where does the resistance come from? The guideline is clear, you might say.

This is due to the sectarian nature of the pediatric dentists club. Those with a lot of influence exclude those with a different opinion, even though the view of the others is supported by the guideline. That is why the guideline gets stuck at implementation stage. Consider how little interest there was in a contribution to Dental Tribune's series of causal caries therapy.



René Gruythuysen: "As a scientist or healthcare provider, always be open to criticism. Dare to keep doubting."

Three years ago you were hopeful about the project that the NZa (Dutch Health Authority) had started for a better financing structure, in which the causal approach – including the non-restorative cavity approach (NRCT) – is better reimbursed.

That has yielded nothing yet. They keep on discussing, but how long have we been hearing that?

Are there forces holding it back, or is the reimbursement structure difficult to change?
I don't know, it's unclear to me which agency is on the brake. What is certain is that reimbursement per tooth is an outdated concept. It is important when determining the reimbursement structure that it rewards treatment per child, not per tooth. With NRCT you look much wider than that one primary tooth.

How does the new guideline fit into the development of pediatric dentistry?
Last year we celebrated the 50th anniversary of the NVvK and the VBMZ. The associations were founded by Willem Berendsen and Rob Burgersdijk to improve the quality of care. Willem Berendsen said in an interview with Dental Tribune in 2014, after reading about NRCT: “We have a lot to set right in pediatric dentistry.” With Lina Jasulaityte, Rob Burgersdijk explained in the NTVT theme issue (July-August 2021, ed.) what should be understood by this. The associations should listen more closely to their founders, especially now that it appears that effective care often has little to do with 'Technical feats' (the title of the upcoming congress).

You regularly refer to the Code of Conduct when you criticize colleagues in the field. Some think that is going too far.

I often see that people start to behave like a victim. “We have done so much our best and look what an aggression, we do not deserve that!” While I keep the discussion purely substantive. I indicate exactly which statements in my view are wrong. You have to be able to be vulnerable to that and respond to it substantively. Self-reflection serves the interests of science.

In which part of NRCT should the average practitioner in oral care be most proficient?

The behavioral component, i.e. evoking change behaviour. This is not primarily about communication tricks, but about empathy that comes through.

Is that a lack of knowledge or is the pediatric dentistry approach the problem? Do practitioners not know, or do they just not think that way?

I think it's a combination of both. It is already quite something to learn to think according to the principles of NRCT and to apply them. For me, a beautiful moment is when a parent realizes, “We have set the wrong priorities at home.” Such a parent then corrects her-/himself, which is very good. You can give any practitioner a motivational interviewing course, but it is about having the right basic attitude to change the behavior of patients and parents. Then you can

practice it and improve yourself, because it cannot be learned with a simple course and you always make mistakes. Me too. You have to learn from that.

What can go wrong when motivational interviewing tricks are used without the right basic attitude?

If you don't get started right away and get inspired by it, what you've learned quickly fades into the background. The most important thing is to connect with your patients and show noticeable empathy. That's what it's about. Building a good relationship with your patient creates a lot of space for self-reflection because the patient/parent feels safe and supported.

You have sometimes referred to it as child abuse when parents do not pay enough attention to their child's teeth. How do you view that now? Many parents have busy lives and are not focused on the dental care of their children every day.

Whether you give them too little food, let them sleep too little or do not take care of their teeth: the basic principle is and remains that children have the right to be cared well. Much of behaviour acts happen unintentionally and that is why it is good as a dental care provider to guide parents. Don't shout too quickly: "Ah, look at those teeth, guidance here has no sense!" In this way, treatment under general anesthesia is often wrongly chosen. But if you apply NRCT, start working professionally with the parents and have an eye for the problems they face, you will notice that you can get them along, although it sometimes takes a lot of perseverance and parents and children sometimes relapse. The essence is that the situation for the child improves structurally.

You already mentioned violation of scientific integrity. You will also see them on stages that are considered very reliable. You have seen a dubious article published in a leading international journal.

I have several examples of it. It is striking that it is often the national organizations for scientific integrity that take action and not the universities. In my experience, universities too often behave as defenders of the violator in complaints about scientific integrity. Publishers too. The messenger of bad news is being accused, because those agencies don't feel like fuss, and it's more about covering up the hassle than substantive transparency. As a result, a violator will misbehave more often.

What do you think of the role currently played by the Ivory Cross, the advocate of prevention in oral care?

What I appreciate is that Ivory Cross urges the professional group to act in an increasingly more obliged way. It has once again become an action group that is concerned with healthier mouths and not just political positions, an association that sticks its neck out for effective oral care and wants to become less dependent on the industry. Moreover, they have resumed the plea for an important part of oral care, especially the preventive part, to be included in the basic insurance.

There is a good board and a good office. Every health care professional who takes prevention seriously should be a member of the Ivory Cross.

For many years you have sparked discussions and commented on numerous positions and articles. Is someone else going to pick that up?

Perhaps. Pediatric dentist Lina Jasulaityte has a completely different style than I do, but is someone with a lot of knowledge and expertise about effective pediatric dentistry. She is sometimes described as someone who is “in Gruythuysen's camp”, but we are all independent, sensible people. So you shouldn't put people in boxes. She will be able to shape the substantive discussion in her own way.

Looking at the pleas and movements towards more effective pediatric dentistry, are you optimistic or pessimistic about the future?

The key to this lies with the universities. They must show their colors and make themselves visible as independent advocates of effective pediatric dentistry. They must train future generations of oral health professionals. Hopefully the urgency will increase and the changes will accelerate at each of the three universities. The guideline demands quite a lot from graduate dentists if they actually have to work differently than they were taught.

What do you think afterwards: I could have done that better?

(long silence) Well. You know... I've had faith in people that I thought would contribute, but some of them ended up cheating me. I could have been more wary, but is it workable not to trust anyone? What should I have done differently ... I should have been less reluctant, because this is a vulnerable group that I believe is being harmed. Once you show such abuses, I see no reason to hold back, and I'm actually surprised that more people don't stand up for it. In that respect I am happy with Lina Jasulaityte, because of whom I know that there will be continuity in attention for NRCT and effective pediatric dentistry, in her way. There are certainly more dentists who do a good job, in general I don't have many objections to dentists general practitioners. For example, many of them participate in the ‘Gewoon Gaaf’ (Dutch version of NOCTP) project.

What about the treatment of deep caries?

There has been a substantive struggle since the nineteenth century. Many American dental-endodontists are real ‘cleaners’ who excavate everything, their European colleagues chose more often for conservative and selective removal of caries. The Americans will indicate that they still observe caries activity under the microscope, but that is a momentary observation. Based only on snapshot, you cannot make statements about the long-term clinical effects. It is incomprehensible that the endodontists have not yet investigated the inhibitory effects of silver diamine fluoride on deep caries lesions. I am glad that the comment that you need to see a layer of dentin under the caries lesion on the bitewing for indirect pulp capping

has been removed from the draft guideline. It is not a valid criterion due to overlap and leads to many unnecessary pulpotomies.

There have regularly been people who have indicated: “That Gruythuysen is so aggressive, so sharp, so confrontational...”

I have sometimes emailed people with a ton of people in CC, but that was after deploying other methods that had no effect. You should not take action for the sake of action, but in the service of achieving your goal. This has been my way, although I would rather have done it in a good discussion. I have always been open to conversation.

What are you satisfied with?

A word like ‘satisfied’ doesn’t really fit me. I have a natural aversion to people who think they are untouchable and for whom self-congratulation is daily practice. Complacency is rampant among many pediatric dentists. I don’t feel any pride in what I’ve accomplished. I considered it a privilege to be able to do something meaningful for the target group and until I became ill I was able to give day courses, and I am constantly confronted with what I could have done better. We are so limited as humans. The poet Werner Schwab wrote: *Wir sind in die Welt gevögelt aber können nicht fliegen* (We were all flown up into the world, but we cannot fly, ed.). That is a good reason to remain modest and to make yourself testable in healthcare and science, two domains in which high pretensions are still prevalent. If you receive substantive criticism as a healthcare provider or scientist, you may feel personally attacked, but that is unimportant. Be flexible enough to respond honestly and to keep on doubting. Also about the things you think you know for sure.

Do you have a message for the profession?

Today, as a general practitioner, you have so many options for treating children yourself. Do it yourself, do not refer them to the pediatric dentists. A child belongs in the first place in the family dentist's practice, and not just with the prevention assistant. Keep an eye on your patients' teeth. And take note of the professional profile of the dentist (KNMT, 2016). It states: ‘*The basic principle of dental care is support for self-care, i.e. support for all activities that patients carry out themselves to maintain, restore or improve oral health. Dentistry in the Netherlands is strongly focused on the adage: prevention is better than cure.’* Then we have already achieved a lot.

Finally, what drove you?

I think life has no meaning, but it's hard to live with that. That's why I thought I had to commit myself to others, to have the illusion that my life has meaning. Then I feel an illusion richer despite all my shortcomings towards others.

Child-friendly oral care according to René Gruythuysen

Child-friendly oral care is the treatment that is the least burdensome for children in physical and mental terms and that stimulates the improvement of oral self-care behaviour. This approach is in accordance with ethics, the Youth Act and the profile of the dentist. In practice, this comes down to tackling the cause. The core of the causative treatment of caries is the inhibition or stopping of caries activity through adequate cleaning with fluoride toothpaste. Of course, paying attention to the right balance in the diet is one of the determining factors for a healthy mouth. *Gruythuysen RJM. Kindvriendelijke mondzorg. AccreDidact, 2018-4:Houten, p. 10.*

Who should solve the caries problem?

Is treatment with a Hall crown always a good approach? Retired researcher and postgraduate teacher of pediatric dentistry and cariology René Gruythuysen has some comments. On the basis of two cases by Thierry Boulanger and one of his own, he indicates why he believes that the Hall crown is only the third treatment choice for caries activity, after cleaning the accessible or made-accessible cavitated caries lesion with attention to nutrition and if necessary, the deployment of limited technical measures.

The Hall crown is claimed to be a predictable treatment, independent of the patient's oral self-care behavior and the cheapest treatment in the long run. These are rather strong claims that come from the Scottish Hall researchers and have been enthusiastically adopted by, among others, a few Dutch university lecturers (examples known to the editors).

The new guideline Oral Care for Youth, Prevention and Treatment of Caries, comes to a completely different conclusion: *'Since there is no evidence that the effectiveness of a restoration, Hall crown or NRCT is significantly different, it is important to choose the most child-friendly method. NRCT has the advantage that if the self-care is adopted according to the Caries Prevention Advice (Ivory Cross, 2011), the child will also have benefits for the other teeth and also for the future. It is important for children and their parents/carers to be able to participate in making informed decisions about prevention and treatment. The best interests of the child are always at the center of this.'* An attempt has been made to demonstrate that the costs of a Hall crown for cavitated primary molars are lowest by means of a comparative 'single tooth' study. This gives a distorted picture because non-restorative/non-operative cavity treatment (NRCT) is not a treatment at the tooth level, but a treatment concept at the child level. The guideline concludes from comparative research (FiCTION trial) *'that there is no significant difference in the outcomes of pain, infection, quality of life or anxiety of the different treatment options. However, NRCT is cheaper in absolute terms.'*

The research report of the FiCTION trial shows that slicing of carious primary teeth was used, but that the option of the full 5-point treatment concept NRCT was not used in the study, including the option of applying silver diamine fluoride (SDF). Motivational interviewing was also not included. Strange, because both have the potential to significantly improve outcomes in the prevention group. Nothing was mentioned about this in the discussion. That was also not in the interest of the authors, who travel all over the world to advocate the application of 'sealing in' with the Hall crown in particular and apparently have no interest whatsoever in improving causal therapy.

Case 1: preformed crowns under anesthesia

A child treated under anesthesia at a young age was fitted with crowns on all primary molars (Fig. 1a-d). These were not Hall crowns, but that makes little difference to caries development.

The parents were fine with it and oral care did not improve, although the importance of this was pointed out. Apparently the message to the parents was that the dentist will solve any problems. The Hall crown covers the entire primary molar and it is therefore not possible to see the influence of oral self-care behavior on a caries lesion. Of course, plaque is clearly present everywhere and there is clearly gingivitis, but apparently that causes too few problems to change oral behaviour. The parents had not noticed the damage to the later erupting first permanent molars.

Learning moment: The preference for (Hall) crowns in the treatment of cavitated primary molars suggests that the dentist is solving the caries problem. This increases the risk of damage to permanent teeth.

Case 2: Long-term Outcomes of NRCT Concept

An uncooperative child of almost 11 years with cavitated primary molars was followed for seven years (Fig. 2a-d). Causal therapy supported with technical interventions was chosen to prevent complaints in periods of declining self-care. However, it was increasingly more and more possible to achieve behaviour change, which means that permanent teeth have a good chance of improved oral health. The first permanent molars show no (active) caries except for slightly discolored fissures. Sealants were unnecessary.

Learning moment: Treatment according to NRCT concept contributed to improved oral health in the long term because the parents, supported by the oral health provider, developed confidence in effective care.

Case 3: 'It has to be shielded'

During a lecture for a department of the KNMT (name of the speaker and department are known to the editors), an image of a carious MIH molar (fig. 3) was used from the internet without citing the source, which clearly came from the Nederlands Tijdschrift voor Tandheelkunde (NTVT), and was previously also published in TandartsPraktijk (TP). Without further explanation, the speaker said 'This must be shielded'. In reality it was a lower molar of a very fearful 5 year old girl. With the NRCT concept, it was possible to get the caries activity under control in a child-friendly manner by placing the control of that process with the parents and the child. Exactly as it was recommended in the guidelines ten years later.

Learning moment: The Hall crown was recommended, where the NRCT concept should have been the first-choice method to give the parents confidence in inhibiting the caries activity.

Discussion

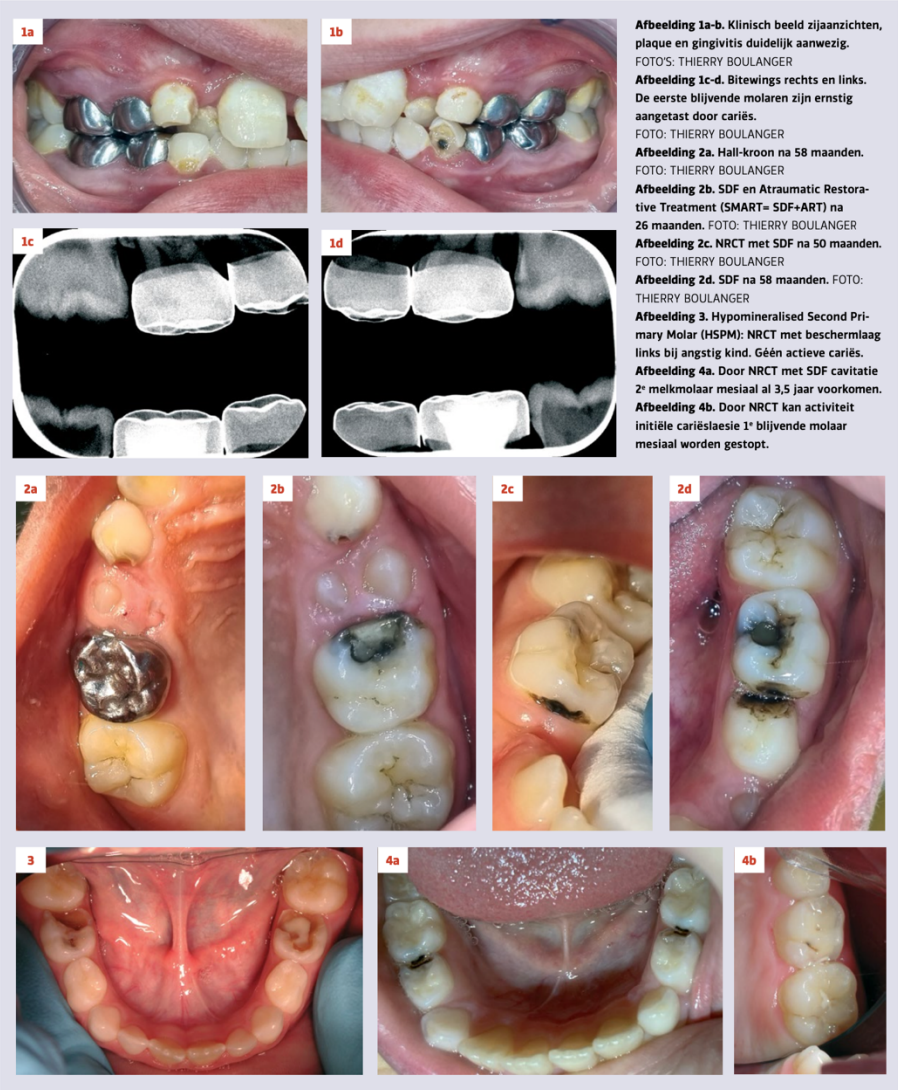
The Hall crown masks the presence of caries activity and is a third choice treatment in the NRCT concept. The first choice is brushing of the cavitated caries lesion and attention to nutrition. The second choice is the use of limited technical measures (slicing, fluoride varnish or SDF, applying a protective GIC layer). The third choice is restoration as a last resort measure in case of necessity. The Hall crown has a good survival rate at tooth level because all surfaces are shielded from the oral environment. That is why the Hall crown is the most extreme form of

symptom control per tooth, but this will not 'predictably' slow down the caries development in the child. Research shows that restorations increase the chance of caries developing in the adjacent surfaces. By slicing the distal surface of the first primary molar, an incipient caries lesion of the adjacent mesial surface of the primary molar can be stopped (Fig. 2c-d, 4a). The same applies to the distal surface of the primary molar and the first permanent molar (Fig. 4b). Moreover, one can see recommendations to choose a (Hall) crown for deep caries lesions. This is understandable in the view of ineffective traditional preventive care. But our own research has shown that if the child is treated via the NRCT concept, where restoration is a support for effective self-care, a good result can be achieved with any type of restoration. Of the 82 deep multi-surface preparations, restored with compomer, two failed due to pulp pathology in three years. However, the survival of the compomer restorations was 100%. That says something about the power of the NRCT concept. This all, without even mentioning about the preference for the latest generation of glass ionomer cements.

For a recent unambiguous explanation of the guideline in combination with case histories about effective care, the publications of Lina Jasulaityte can be consulted, in particular the article 'Non-restorative cavity treatment: from guideline to practice' that appeared in the theme issue of the NTvT in July 2021. In the AccreDidact edition 'Child-friendly oral care' (2018), a chapter is devoted to the effective application of the Hall crown with accompanying tips.

Conclusion

The Hall crown is a valuable treatment option that, without strict indication, merely masks the caries activity locally and does not contribute to improving oral health in the child, because the parents do not get the chance to experience how the caries activity can be stopped clinically.



Afbeelding 1a-b. Klinisch beeld zijaanzichten, plaque en gingivitis duidelijk aanwezig. FOTO'S: THIERRY BOULANGER
Afbeelding 1c-d. Bitewings rechts en links. De eerste blijvende molaren zijn ernstig aangetast door cariës. FOTO: THIERRY BOULANGER
Afbeelding 2a. Hall-kroon na 58 maanden. FOTO: THIERRY BOULANGER
Afbeelding 2b. SDF en Atraumatic Restorative Treatment (SMART= SDF+ART) na 26 maanden. FOTO: THIERRY BOULANGER
Afbeelding 2c. NRCT met SDF na 50 maanden. FOTO: THIERRY BOULANGER
Afbeelding 2d. SDF na 58 maanden. FOTO: THIERRY BOULANGER
Afbeelding 3. Hypomineralised Second Primary Molar (HSPM): NRCT met beschermlaag links bij angstig kind. Géén actieve cariës.
Afbeelding 4a. Door NRCT met SDF cavitatie 2e melkmolaar mesiaal al 3,5 jaar voorkomen.
Afbeelding 4b. Door NRCT kan activiteit initiële cariëslaesie 1e blijvende molaar mesiaal worden gestopt.

1a-b. Clinical picture of the lateral view from both sides, plaque is clearly present. (Photo T. Boulanger)
1c-d. Right and left bitewings. The first permanent molars severely carious. (Photo T. Boulanger)
2a. Hall crown 58 months after placement. (Photo T. Boulanger)
2b. SDF and atraumatic restorative treatment (SMART=SDF+ART) 26 months after treatment. (Photo T. Boulanger)
2c. NRCT with SDF 50 months after treatment (Photo T. Boulanger)
2d. SDF after 58 months. (Photo T. Boulanger)
3. Hypomineralized second primary molar (HSPM): NRCT with protective layer of GIC in a fearful child. No active caries.
4a. Due to NRCT with SDF cavitation in the mesial surface of the second primary molar has been prevented in the period of 3,5 years.
4b.By using NRCT caries activity in the mesial surface of the first permanent molar can be stopped.