



Tooth loss – a pivot point for future oral care

First tooth loss exerts a significant psychological impact on adult patients but can also be a pivotal point in protecting future oral health, with the added potential of strengthening patient-clinician relations.^{1,2} By adopting a patient-centered approach, dental practitioners can demonstrate empathy and understanding as patients undergo a physical and psychological transition to partial prostheses.³

KEY POINTS

- “First tooth loss is an important psychological moment for patients”.
- “Dental practitioners can build upon this moment to promote new oral care behaviors for patients caring for new partial appliances”.
- “This can act as a springboard to embed better standard oral behaviors to help patients retain their remaining dentition”.
- Features guidance from dental experts in the US (Professor David Felton, Dean and Professor at the School of Dentistry, University of Mississippi Medical Center; Dr Samantha Rawdin, New York-based prosthodontist), Russia (Dr Petr Brinkovskiy, Moscow-based prosthodontist) and UK psychologist Dr Koula Asimakopoulou, Reader in Health Psychology, King’s College London.

A pivotal time for change

There are multiple reasons why a patient has no other choice but to lose a tooth or teeth. It can be a sudden, traumatic loss for some, due to an accident or sports injury, or the final step with no chance of stabilizing deterioration. Most commonly, it is due to caries and/or periodontal disease.⁴

How patients experience this psychologically will also differ markedly, says Dr Koula Asimakopoulou, a Reader in Health Psychology, School of Dentistry, King's College London. Dependent on the circumstances of their tooth loss, she adds: "Patients will be in different psychological stages, given how they have lost their tooth."

Whatever the reason, tooth loss presents the dental practitioner with an opportunity, she believes, to change patient behaviors. "Research suggests that people go through those teachable moments at a time where some big health event comes and hits them, so a tooth coming out, it's an opportune moment for the healthcare professional to intervene," says Dr Asimakopoulou.

Dental practitioners can utilize their understanding of patients' psychological needs to enable them to both optimize their partial appliance use and assist them in retaining their remaining dentition via long-term behavior change. A positive dental experience at this critical time for patients can lay the foundation for a relationship built on trust and support.³

A bigger gap – the potential for partial

Although improved oral health has reduced the number of edentulous patients requiring full dentures, there are now an estimated 650 million people globally wearing partial prosthesis.⁵

Despite its growing prevalence, the move to wearing a partial prosthesis is a life-changing event. A recent review found a significant number of patients struggled in accepting their tooth loss, felt less confident and were emotionally distressed, with a marked impact on social interactions and functional activities.⁶

Dr Samantha Rawdin, a New York-based prosthodontist knows first-hand the psychological toll tooth loss has on her patients. "It's a hard thing. It's an emotional thing, especially when it's a front tooth - that tends to be very, very hard for patients. There's a lot of shame that comes with it."

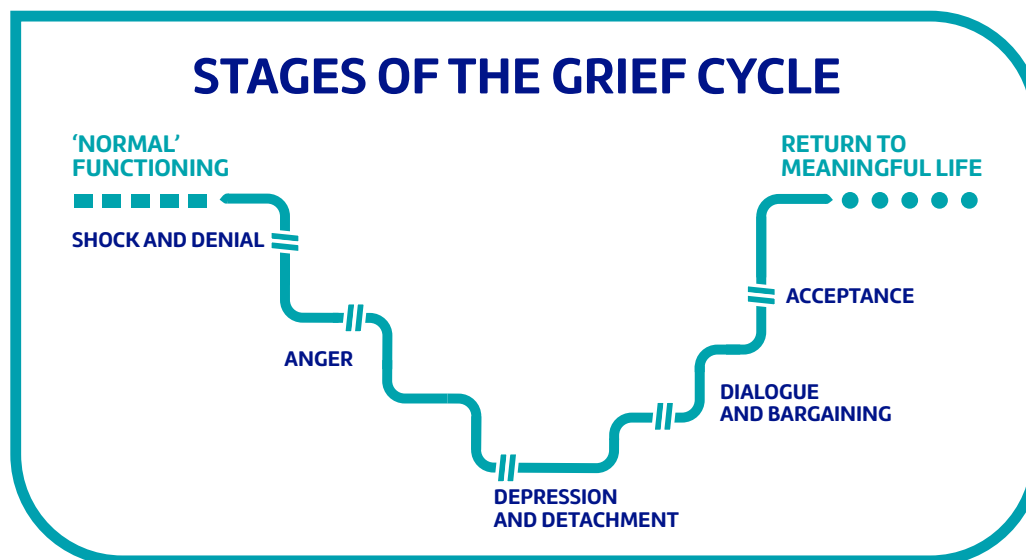
Being non-judgmental is critical. She uses tooth loss as an opportunity to create a teachable moment: "It comes from a place of educating the patient and explaining: 'Okay, this

is why you lost the teeth, this is what we're going to do to replace those teeth and this is how we're going to maintain everything that you still have, so I don't want you to feel badly about this."

Recognizing that patients may also be in different psychological stages of dealing with loss can help too, says Dr Asimakopoulou. "For example, in the situation of trauma, they were perfectly healthy, they have been doing all the right things all the time. And now they have lost a tooth. So, depending on where the person is within that cycle of grief when they come to see the dentist, there may be more or fewer opportunities to engage."

The big change, says Professor David Felton, Dean and Professor at the School of Dentistry, University of Mississippi Medical Center, is the patient's need to maintain the partial but also their remaining dentition. "There's an old adage in dentistry: You don't need to brush and floss all of your teeth, just the ones you want to keep."

Figure 1: The cycle of grief (adapted from Kubler-Ross 1969)⁷





Making the change - motivating patients

Making the transition to partials is a significant stage in patients' psychological process where dental practitioner intervention is critical. Data show moving to partials provides benefits not only in appearance, but in overall oral health quality of life, improved social interactions and enhanced self-esteem and psychological well-being.⁸ However, this takes time.

"The big thing here, I think, is not only educating them, but to have them be patient," adds Professor Felton. Patients need to recognize that having a new partial will not instantly return to them to their previous full dentition state, he explains: "For most people it takes quite a while, it can take a month or longer for them to adapt to it."

Moscow and Volgograd-based prosthodontist Dr Petr Brinkovskiy says this adjustment can be dependent on patient motivation. "Some patients have a good motivation when they first start to use their prostheses. Some patients still have problems at one month, maybe two months. We sometimes need to meet maybe two, maybe three, maybe four times."

He recommends taking before and after videos for patients to demonstrate the change in appearance. "Sometimes patients can't smile, they can't eat and just after one week their life has changed because they have a beautiful smile. They see the picture before and after and it's a good motivation."

Dental practitioners may find that patients who already maintain a good oral hygiene regime could make an easier transition to partials and their care. "They understand what a regular oral care routine entails. Patients who are maybe just coming because they haven't been to a dentist in several years, I find that those are the patients that are harder to convert to a regular oral care routine," adds Dr Rawdin.

**Dental practitioner intervention
is critical**



The cleaning pivot

Having patients understand that wearing partials means they have to change their oral health behavior is “a critical part of the whole therapeutic goal”, says Professor Felton.

Dr Rawdin adds that it is important patients retain their remaining teeth as “without those, the partial may not function properly”.

Embedding a new oral care habit can be, as with other habitual behavior, an idiosyncratic process, dependent on personally relevant behaviors.⁹ A patient’s previous oral care routine does not preclude them from changing once they have a partial as their behavior can become a habit in one setting, but not in another.⁹ Data shows that adopting a new habit consistently made it more likely to become automatic, but the time this took varied between 18 and 254 days, so patience with patients is required.¹⁰

For patients with partials, embedding a regular cleansing routine is essential. “A partial that stays in somebody’s mouth for 8 or 10 or 12 or 15 hours a day, essentially underneath [the partial], it functions like a greenhouse to grow bacteria and oral biofilm,” explains Professor Felton. “Those types of things may not do a lot of damage to the partial, but it can do dramatic damage to the remaining teeth and soft tissues.” Indeed, a 10-year follow-up of patients with partials showed 20.5% of remaining teeth had been extracted, of which 66% were abutment teeth.¹¹

**“...essentially underneath [the partial],
it functions like a greenhouse to grow
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Specialized cleaning products for partials are necessary, says Dr Brinkovskiy. “The surface of dentures is very soft, it’s not hard like enamel of our teeth. Sometimes people use different products, different agents like toothbrushes with toothpaste, like vinegar, like mouthwash, like liquid soap. These agents are very, very dangerous for the surface of our dentures because they consist of very aggressive agents.”

Frequency of partial cleaning is also a factor. Ideally, patients should remove their partials after every meal to clean away debris but, the reality is often different, admits Professor Felton. “We know from correct oral health that if we could get somebody to brush and floss properly - and that’s the key word here, *properly* - at least once a day, then we can help them maintain their remaining dentition. The same thing applies to the partial. If somebody’s not going to take it out and clean it after every meal, then they at least need to do it appropriately and accurately once a day.”

The traditional approach is to view the addition of partials cleansing as an extra step in the oral care regime. Alternatively, suggests Dr Asimakopoulou, flip this around: embed standard oral care behaviors on the back of a patient’s new partials cleaning regime. “It’s about setting an easy routine that people can engage with to take up this new behavior and then your old behaviors could hang onto this new behavior.”

As an example, a simple three-step process for patients could comprise:

- STEP 1** A non-abrasive cleanser specially developed to cleanser partial dentures
- STEP 2** A toothpaste for remaining dentition that prevents caries*
- STEP 3** A mouthwash for remaining dentition that helps with cavity protection

*With twice-daily brushing

Disrupting behaviors

This period of transition to a life with a new partial could, however, offer a window of opportunity in changing the patient-professional dynamic. Dr Asimakopoulou believes it allows the dental practitioner to demonstrate that they are a caring, empathic, patient-centred healthcare professional. For patients, it could help reframe existing oral health habits and enable them to embed new oral care behaviors both for their partials and their remaining teeth.

Changing oral health regimes can utilize the standard COM-B behavior change model:¹²

- **Capability**
- **Opportunity**
- **Motivation.**

Most consultations with dentists and patients focus on the capability aspects, such as how to clean teeth, says Dr Asimakopoulou. However, opportunity and motivation are also required for the combination lock of behavior change to work. The difficulty is that motivation is the hardest part to tackle.

Patients who are new to partials may be more motivated and therefore, be receptive to behavior change. “This is sort of their opportunity to take hold and really become empowered to take care of their oral health,” explains Dr Rawdin. “You have to have patients understand how they got to where they are, what we’re doing to manage where we are and how to again maintain everything going forward.”

Professor Felton agrees: “There’s still a considerable amount of patient education and good oral hygiene instruction that’s going to need to go on, both with the natural teeth and remaining periodontal issues but also with a partial denture. You just have to be good at addressing the patient’s understanding and educating the patients on what’s needed.”

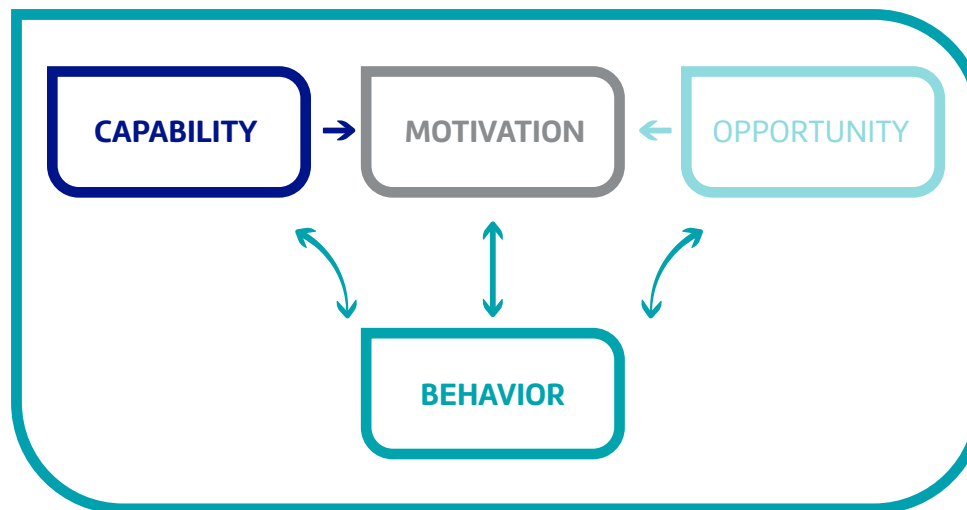


Figure 2: COM-B module of behavior change (adapted from Michie, et al, 2011¹²)

Conclusion

For patients, having to adjust to life after tooth loss and adapting to wearing a partial need not be a negative experience. Improved function, aesthetic benefits and overall improvements in oral health quality of life are highly motivating. For dental practitioners, harnessing this pivotal moment can help them educate and encourage new oral health behaviors, while also strengthening their patient relationships.

As Dr Rawdin says: “I see them a few times a year once all their treatment is done. It’s the home care that we’re really focusing on to make sure that they’re taking good care of everything.”

| Adjustment | Expert Advice |
|---------------------------------------|---|
| <p>Cleansing</p> | <p>“Use the appropriate cleansers for the partial. We know that a lot of toothpastes for example have a pretty high level of abrasive materials in it and you can actually scratch the partial...which makes them even more plaque retentive than otherwise” - Professor Felton</p> <p>“Use a toothbrush with soft bristles” - Dr Brinkovskiy</p> <p>“If you’re doing it over the sink [cleaning partials], which most patients do, either fill the sink with some water so that way if it drops it won’t break or you can place like a little towel in the sink” - Dr Rawdin</p> |
| <p>Chewing and mastication</p> | <p>“They’re going to have to work their way up from a soft diet to a more gradual hard diet” - Professor Felton</p> <p>“If they’re missing teeth on both sides of the mouth, I always try to say chew on both sides, which is not a normal thing. It helps to balance so that you’re not just biting on one side and kind of losing that stability” - Dr Rawdin</p> |
| <p>Salivary stimulus</p> | <p>“They are larger than what they’re replacing and often times patients really salivate. They need to be educated that this will happen, and it’ll take a couple of weeks for you to get used to it” - Professor Felton</p> |
| <p>Speech impairment</p> | <p>“The more you speak with it, the easier it is to use and get used to it” - Dr Rawdin</p> <p>“I recommend to my patients to use a different cream for stability of their prosthetic. It gives advantages with their speech, with their eating and also with their sleeping” - Dr Brinkovskiy</p> |
| <p>Pain</p> | <p>“It’s like new shoes. Sometimes the patient has a pain when they use dentures, but we need to correct this prosthetic area” - Dr Brinkovskiy</p> |

The patient perspective

Interviews with patients in Russia, Spain and the US reveals the psychological impact of transitioning to partials.

“I’m very worried about checking my remaining teeth”
Leah, US

“I didn’t feel good about having to wear it, as I say, I saw it as something for the elderly and the fact of having to wear denture seemed horrendous”
Nuria, Spain

“The whole thing is extremely stressful: you’re worried sick about every aspect of it”
Margarita, Russia

“I felt a little bit conscious because someone as young as me wearing dentures is like almost unheard of and it made me feel embarrassed”
Mable, US

“It took a long time and it was very unpleasant both physically and psychologically. psychologically because I couldn’t come to terms with the fact that my time had come to have false teeth” Irina, Russia

“I couldn’t even leave my house because I had this problem with my mouth, that I was ashamed about”
Jesus, Spain

“My dental health has been my biggest regret of my life, if I could do anything over again that’s definitely something I would change. Because I hate that I’ve done that to myself basically” Tiffany, US

“I saw this question of denture as something for the old”
Guillermo, Spain

“I really didn’t have confidence in myself” Taffarah, US



References

1. Fiske J et al. Br Dent J 1998; 184(2): 90-3.
2. Davis D et al. Br Dent J 2000; 188(9): 503-6.
3. BJD Team, February 2016.
4. Nuvvula S et al, J Indian Soc Periodontol. 2016 Mar-Apr; 20(2): 222-224.
5. IPSOS 2014. Estimation of partial prevalence globally. GSK Data on File.
6. Kudsi Z, et al. 2020. Assessment of psychological disturbance in patients with tooth loss: a systematic review of assessment tools. J Prosthodont, 29:193-200.
7. Liebe KM. 2020. Time for audiologists to change their language? Hearing Health Matters. Accessed September 2020. <https://hearinghealthmatters.org/hearingviews/2013/time-audiologists-change-language/>
8. Emami E, et al. 2013. The impact of edentulism on oral and general health. Int J Dent, Article ID: 498305.
9. Gardner B, et al. 2019. A matter of habit: recognizing the multiple roles of habit in health behavior. Br J Health Psychol, 24:241-249.
10. Lally P, et al. 2010. How are habits formed: modelling habit formation in the real world. Eur J Soc Psychol, 40:998-1009.
11. Wagner B, Kern M. 2000. Clinical evaluation of removable partial dentures 10 years after insertion: success rates, hygienic problems and technical failures. Clin Oral Invest, 4:74-78.
12. Michie S, et al. 2011. The behavior change wheel: a new method of characterising and designing behaviour change interventions. Implementation Sci, 6:42.

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