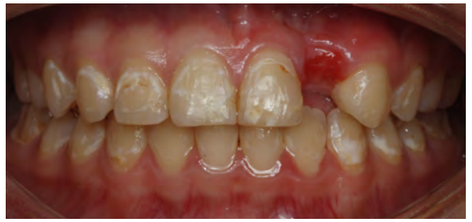
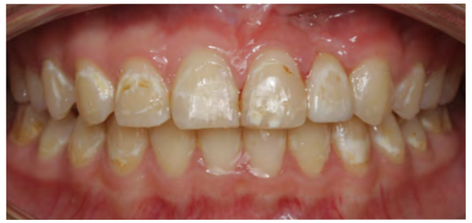
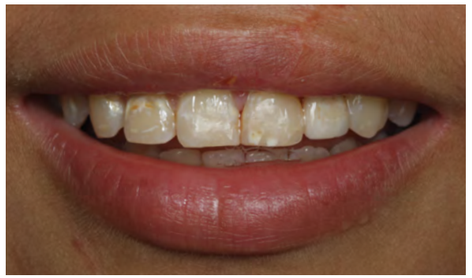
CASE STUDY:

The Challenge: 22 year old female patient presents with congenitally missing tooth #10. Highly characterized natural teeth with difficult shade match. Low smile line. Mild gingival thinning on facial. Recently completed orthodontics with great results - Class 1 occlusion, canine guidance, adequate horizontal and vertical overlap in anterior.







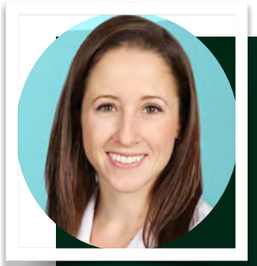
Treatment Selection: After reviewing options with the patient, a resin-bonded bridge was chosen due to the conservative nature and great esthetic potential. The patient elected not to have gingival grafting performed due to her low smile line.

Outcome: A single-wing zirconia bridge was fabricated, porcelain was added to the facial in order to match her complex tooth shade, and it was bonded into place. Our bonding protocol includes treating the zirconia with an MDP monomer (*monobond plus*), etching the tooth with phosphoric acid, applying adhesive, and luting with Rely-X unicem. The patient is also given a hard occlusal guard.

Behind the Scenes at Virginia Prosthodontics

When your patients visit us, they will most likely be introduced to our clinic by Ashley, our amazing Dental Assistant. Ashley is a native of Virginia, where she loves to visit local restaurants. She has been in dentistry for 8 years. She is a dog-mom of her beloved Khaleesi and Korra. Ashley and her husband love to travel and are currently planning their next cruise!

Please reach out to us with any questions you may have at admin@DrEskow.com. We look forward to meeting you and your team.



VIRGINIA PROSTHODONTICS *Newsletter*

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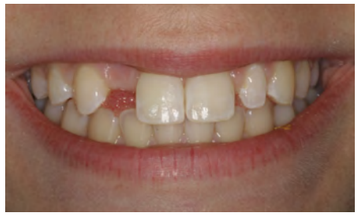
INSIDE THIS ISSUE

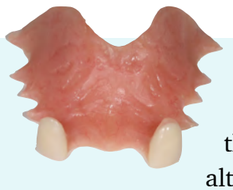
Replacing the Lateral Incisor

The maxillary lateral incisor is the second most commonly missing tooth due to agenesis and one of the most challenging to replace. The complexity comes from the fact that it is in the esthetic zone AND the patient age is typically young when replacement options are needed. The patient's needs, especially in regards to longevity, should be carefully evaluated when selecting from the many replacement options. We hope the replacement tooth will serve the patient for many decades. It is important to have a multi-disciplinary team for these cases - find a good orthodontist, periodontist, and restorative dentist before starting!



In this newsletter, we will present several options and when to consider each option as well as a few tips and tricks!

The "Flipper"



For many years, an interim removable partial denture was the standard treatment option for tooth replacement in children/teenagers. Many kids lose these and don't like the way they look, function, and/or feel. Today, because of the advances in bonding, there are better alternatives, but I still use a partial denture in certain instances:

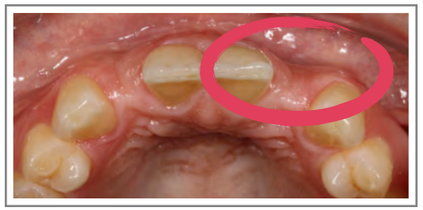
- Patient had a previous failure with a Maryland-bridge (usually due to malocclusion or bruxism) and is not yet old enough for a definitive restoration
- Financial constraints

Resin-Bonded Bridge

Resin-bonded bridges (or "Maryland bridges") are designed with a pontic tooth and 1 or 2 wings that bond to the lingual of the adjacent teeth. Ideally, the bridge is positioned so that the opposing occlusion does not contact it in MIP or excursives. This is a conservative option that can offer longevity and nice esthetics.

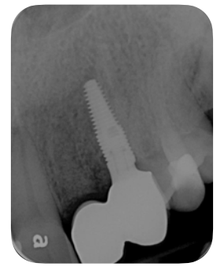
Tips and Tricks:

* What material? Zirconia (3Y-TZP) is the strongest zirconia and works well for a resin-bonded bridge. It is the most opaque zirconia and is best suited as a framework with layered porcelain for esthetics.
* Selection criteria: the abutment tooth must provide 30mm^2 of enamel surface to bond to, and the connector height must be 3mm (if using 3Y-TZP zirconia). Occlusal challenges, such as a deep anterior bite, should be corrected orthodontically before a resin-bonded bridge is considered.
* Preparation design: Minimal enamel preparation is needed. Consider placing a groove or several small "divots" on the bonded tooth to be used as a positional seating guide.
* Prosthesis design: One wing has been shown to have better long-term bonding than two wings. The zirconia wing must be at least 0.7mm thick. Some clinicians choose to include a mini-wing extending to the unbonded tooth for resistance to facial displacement.
* How to Bond? Use an MDP monomer and a resin cement to bond zirconia to enamel.
* Congenitally missing laterals usually coincide with deficient gingival thickness. Especially when a patient has a high smile line, soft (and sometimes hard) tissue grafting is almost always necessary before fabricating a fixed restoration. Overtime, soft tissue under a pontic has been shown to be very stable.
* The informed consent should include the possibility that the bridge may debond. The patient should be given an Essix retainer as a back-up in case this happens.



1. Robbins JW., Alvarez M. Treatment Options for the Replacement of the Missing Maxillary Lateral Incisor. Compendium Oct 2021; 42, 9.

Cantilever Pontic



This may be an option that is not considered as often. Canines are great teeth to support a lateral cantilever, and this can be done with a natural tooth OR an implant. The greatest concern when choosing this option is typically the preparation of the adjacent tooth for a crown, which precludes this option from most younger patients. It is a great choice for a patient who is in need of a full coverage restoration on a canine. These typically have great long-term stability and esthetics.

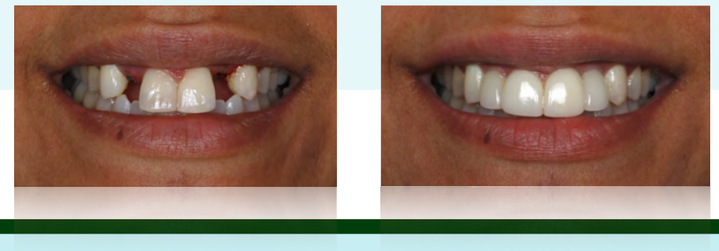
Single Implant

Single implants have been shown to be an excellent tooth replacement option, but there are several complications that should be considered before choosing this option, especially in a young patient:

- The continuation of skeletal growth - if placed too soon, the implant will eventually appear intruded, and this can be hard to predict when this will happen. Growth can continue throughout our lives, so the earlier an implant is placed, the greater chance of this complication occurring.
- Peri-implantitis continues to affect 25% of patients with implants.[1]
- Poor implant placement can cause future gingival thinning and recession, which ultimately leads to a compromised esthetic result.
- Resorbed ridges may require additional surgeries such as hard and soft tissue grafting in order to create proper emergence profile for esthetics and hygiene.

In my opinion, implants should be used as a secondary option to a resin-bonded bridge.

1. Derks J, Tomasi C. Peri-implant health and disease. A systematic review of current epidemiology. J Cain Periodontal 2015; 42(supple 16):s158-s171.



LOOKING FOR ANOTHER OPINION OR OPTION?
WOULD YOU LIKE TO DISCUSS A COMPLEX CASE OR PROCEDURE WITH A PROSTHODONTIST?
DO YOU HAVE CASES THAT WOULD BE FUN TO BRAINSTORM TOGETHER?
CALL OR E-MAIL US! WE WOULD LOVE TO CHAT.

We are here to assist you in whatever ways which are helpful to you. We want to make your jobs easier. Give us a call, send us an e-mail, or shoot us a text.

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Virginia Prosthodontics loves a challenge and loves making your life simpler.