Partial Extraction Therapy(PET) Kit

- Socket Shield Technique
- Pontic Shield Technique
- Root Submergence Technique

MEGA GEN
For Lifetime Smiles

Dr. Howard Gluckman

Dr. Gluckman is an internationally renowned dental practitioner, implantologist, author and lecturer who has been in the industry for nearly three decades.

After completing his dental training at the University of Witwatersrand in 1990, he spent a few years in general practice before taking on a four-year degree in Oral Medicine and Periodontics at the University of Stellenbosch, which he completed with Distinction (Cum Laude).

Eager to shape the industry and help others expand their knowledge, Dr. Gluckman became instrumental in the development of the University of Stellenbosch and the University of the Western Cape's postgraduate Implantology Diploma.

Dr. Gluckman recently completed his PhD titled "Partial Extraction Therapy: Past, Present and Future" passing Summa Cum Laude at the University of Szeged in Hungary, under the supervision of Professor Katalin Nagy.

In addition to running his full-time private practice in Cape Town, Dr. Gluckman is also the co-founder and director of the Implant and Aesthetic Academy (IAA). To date, it's the only private postgraduate training facility of its kind. Over the last 15 years, the Implant and Aesthetic Academy has grown to become an internationally renowned institution that offers various accredited postgraduate dental courses throughout the year. What's more, The IAA is recognized by the Stoneybrook University and the Dentalxp as an accredited training facility for their online externship certificate programmes. He also serves as one of the IAA's senior lecturers.

Dr. Gluckman specializes in immediate implant placement/immediate load, soft tissue aesthetics and periodontal plastic surgery. He also has a special interest in autogenous bone augmentation, especially bone harvested from the palate (a new technique that was published on by Dr. Gluckman in 2015), and three-dimensional bone augmentation. Furthermore, he is an expert in and thought-leader on Partial Extraction Therapy, including Socket Shield, Pontic Shield (a procedure he developed and published on in 2016) and Submerged Root Technique (the topic for which he achieved his PhD).

Other notable achievements and career highlights:

- Diplomat of the International Congress of Oral Implantologists (ICOI)
- Previous author of a monthly Implantology corner for the South African Dental Journal
- Past President of the South African Society for Dental Implantology
- Board member of the Southern African Association of Osseointegration (SAAO)
- Served as the secretary of the South African Society of Periodontics (SASPIO)
- On the editorial board of the South African Dental Journal as well as the Indian Journal of Prosthodontics
- Associate of the College of Medicine and Dentistry of South Africa
- On the experts' panel of the international educational website DentalXp
- On the DentalXp scientific board

Dr. Gluckman is also a prolific and influential author. His work can be found in various implantology textbooks and numerous peer-reviewed scientific journals and book chapters, namely:

Partial Extraction Therapy (PET) Kit

The Partial Extraction Kit has been developed specifically to make the Partial Extraction Therapy Techniques more achievable. The step by step process helps to standardize the procedure to enable faster and more predictable results. The development of the kit was made possible through research which highlighted the complications associated with the techniques. The internal and external shield exposure are the main complications associated with socket shield and pontic shield. The use for the PET kit has specific drills that enable the simple reduction of the shield without damage to the adjacent mucosa as well as preparation of the chamfer below the bone level in order to create the prosthetic space necessary for ideal soft tissue healing over the shield.

The large round diamonds are ideal for both socket shield as well as Root Submergence Technique. The size of the round drills allows fast and easy reduction of the roots to the ideal position reducing treatment time and achieving predictability.

Partial Extraction Therapy(PET) Kit
Components

Maximum Speed (RPM) of Drill			
R1	1,200	LD2037	GD40G
		FS40G	FD3010B
R2	40,000	LMD1225	LMD1231
R3	100,000	RD2025B	RD2034B
		RD3025K	RD3034K

Ref.C PET 3000

Diamond Drill (Lance Drill)

RPM	Diameter	Length(mm)	Ref.C
R1	Ø2.0	37	LD2037

* Depth stopper adjustment is possible with Hand Driver 0.9 Hex.

Diamond Drill (Final Shaper)

RPM	Diameter	Length(mm)	Ref.C
R1	Ø4.0	28	FS40G

Diamond Drill (Lindermann Drill)

RPM	Diameter	Length(mm)	Ref.C
R2	Ø1.2	25	LMD1225
R2	Ø1.2	31	LMD1231

Diamond Drill (Guided Drill)

RPM	Diameter	Length(mm)	Ref.C
R1	Ø4.0	30	GD40G

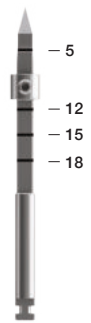
Diamond Drill (Round Diamond)

RPM	Diameter	Length(mm)	Ref.C
R3	Ø2.0	25	RD2025B
R3		34	RD2034B
R3	Ø3.0	25	RD3025K
R3		34	RD3034K

Diamond Drill (Finishing Diamond)

RPM	Diameter	Length(mm)	Ref.C
R1	Ø3.0	34	FD3010B

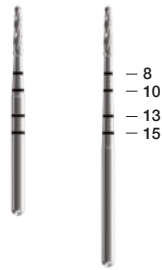
(Ø2.0)



LD**2037**

No.1 Lance Drill

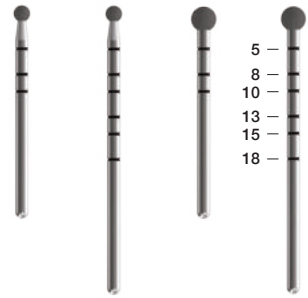
(Ø1.2) (Ø1.2)



LMD**1225** LMD**1231**

No.2 Lindermann Drill

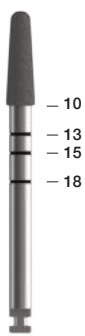
(Ø2.0) (Ø2.0) (Ø3.0) (Ø3.0)



RD**2031B** RD**2025B** RD**3025K** RD**3034K**

No.3 Round Diamond

(Ø3.0)



FD**3010B**

No.4 Finishing Diamond

(Ø4.0)

GD**40G**

No.5 Guided Drill

(Ø4.0)

FS**40G**

No.6 Final Shaper

How to use
Partial Extraction Therapy(PET) Kit

- Socket Shield Technique
- Pontic Shield Technique
- Root Submerge Techniuqe

Socket Shield Technique

From a CBCT, measure the length of the root from the level of the gingiva to the apex. Referencing the CBCT, remove the coronal portion of the tooth flush with the gum line.

Set the length of the No.1 drill using the depth stopper and the 0.9 Hex Hand Driver. Drill with copious irrigation and intermittent pump action until you reach the level of the depth stopper. Take an X-ray to confirm that you have reached the apex of the root.

Use the long shanked No. 2 drill to section the root from mesial to distal in a sweeping motion that runs from mesial line angle to distal line angle. Ensure that you have measured and marked the length of the root, referencing the markings on the drill to make sure you don't drill past the apex.

Gently remove the palatal portion of the root by luxating motion. Your finger should rest on the buccal eminence for support and to ensure no movement of the buccal shield. If there is movement, the palatal portion is not correctly resected.

Once the palatal portion has been removed the apical portion needs to be addressed. The root apex and any gutta percha material must be removed using the No.3 round drill. Place the drill at the most apical portion against the root and move coronally in a gentle painting motion. The drill should not be pushed apically at the apex as this may lead to perforation of the buccal plate.

Use the No.4 finishing diamond drill in the final preparation of the shaping and smoothing of the shield.

Use the No.3 round drill to reduce the coronal portion as close to the crest of the bone as possible. Make sure that the gingiva is retracted with a gingival retractor to prevent damage to the gum during preparation.

Use the No.5 Final Shaper Drill for final preparation and reduction of the coronal portion. The shield should be prepared to bone level. Use the markings on the drill to get the shield to the correct depth. Verify shield height at bone level with CBCT.

The No.6 guided chamfer drill creates the space that allows the soft tissue to grow between the shield and the implant. Use the markings on the drill to prepare the chamfer to the correct depth, reshaping and smoothing the coronal portion of the shield.

Implant preparation according to the normal protocols of AnyRidge or AnyOne implants.

Proceed according to AnyRidge and AnyOne drilling protocol to prepare site to appropriate size for implant placement.

The implant should be placed about 0.5mm above the widest part of the chamfer to allow for maximum space between the implant and the shield. This will minimize the risk of internal shield exposure. The implant can touch the shield if there is limited space, however more space is preferable.

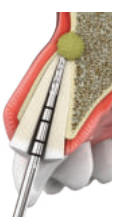
The jump gap should be filled with bone graft material. This can be done either before or after the implant has been placed.

Either a provisional crown or custom temporary abutment with an emphasis on the distance between the shield and subcritical notch is crucial. 2-3 mm of space is necessary to allow good soft tissue coverage of the shield. Failure to accomplish this may lead to an internal shield exposure.

Pontic Shield Technique

From a CBCT, measure the length of the root from the level of the gingiva to the apex. Referencing the CBCT, remove the coronal portion of the tooth flush with the gum line.

Set the length of the No.1 drill using the depth stopper and the 0.9 Hex Hand Driver. Drill with copious irrigation and intermittent pump action until you reach the level of the depth stopper. Take an X-ray to confirm that you have reached the apex of the root.



Use the long shanked No. 2 drill to section the root from mesial to distal in a sweeping motion that runs from mesial line angle to distal line angle. Ensure that you have measured and marked the length of the root, referencing the markings on the drill to make sure you don't drill past the apex.

Gently remove the palatal portion of the root by luxating motion. Your finger should rest on the buccal eminence for support and to ensure no movement of the buccal shield. If there is movement, the palatal portion is not correctly resected.

Once the palatal portion has been removed the apical portion needs to be addressed. The root apex and any gutta percha material must be removed using the No.3 round drill. Place the drill at the most apical portion against the root and move coronally in a gentle painting motion. The drill should not be pushed apically at the apex as this may lead to perforation of the buccal plate.

Use the No.4 finishing diamond drill in the final preparation of the shaping and smoothing of the shield.

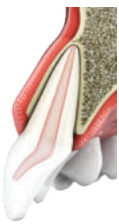
Use the No.3 round drill to reduce the coronal portion as close to the crest of the bone as possible. Make sure that the gingiva is retracted with a gingival retractor to prevent damage to the gum during preparation.

Use the No.5 Final Shaper Drill for final preparation and reduction of the coronal portion. The shield should be prepared to bone level. Use the markings on the drill to get the shield to the correct depth. Verify shield height at bone level with CBCT.

After the socket has been curetted and all the infected material has been removed, the socket is filled with a bone substitute. A soft tissue graft is used to cover the socket. This can either be in the form of a connective tissue graft or a free gingival graft that has been deepithelialized. The tissue should be tucked under the buccal and palatal flaps at least 4-5mm deep. The other alternative is a rotated palatal flap which will need to be inserted into a buccal pouch at least 4-5mm. It is essential that the tissue is sutured in an immobile fashion. Once healed an ovate pontic is used with light pressure to form the soft tissue.

Root Submergence Technique

Vital Root Submergence



Vital teeth can be used in the Root Submergence Technique.

Cut the coronal portion off the tooth to gingival level. Use the large No. 3 round bur to then reduce the root surface interface to bone level. The internal root area (concave shape) should be about 2mm below bone level to allow adequate soft tissue thickness between the root and the future pontic.

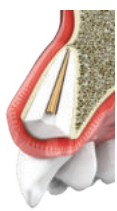
The vital root surface interface is left exposed. No graft material is applied to the surface area of the root. Coverage of the root is essential using either a free gingival graft or a vascularized rotated palatal flap. It is essential that the free gingival graft extends at least 4mm into a pouch created both buccally and palatally to ensure adequate blood supply to the graft.

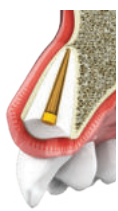
Once healed (about 8-12 weeks) an ovate pontic is used with light pressure to form the soft tissue. It is imperative that there is only light pressure on the tissue as to not put too much pressure on the gingiva, which could lead to exposure of the root.

Root Submergence Technique

Vital Root Submergence

Root submergence of a nonvital root requires that the root canal treatment is well sealed and has NO apical radiolu-cency.





Cut the coronal portion off the tooth to gingival level. Use the large No. 3 round bur to then reduce the root surface interface to bone level. The internal root area (concave shape) should be about 2mm below bone level to allow adequate soft tissue thickness between the root and the future pontic. Remove 2mm of root canal material and seal the canal with glass ionomer cement or MTA.

Coverage of the root is recommended using either a free gingival graft or a vascularized rotated palatal flap. It is essential that the free gingival graft extends at least 4mm into a pouch created both buccally and palatally to ensure adequate blood supply to the graft.

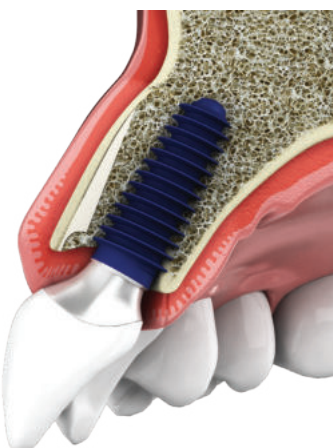
Once the soft tissue has healed in 8-12 weeks an ovate pontic can be placed onto the tissue. It is imperative that there is only light pressure on the tissue as to not put too much pressure on the gingiva which couldlead to exposure of the root.

Perfect matching with **AnyRidge**

The strong point of Partial Extraction Therapy is that it gurantees a high success rate of immediate implant placement which leads to strong initial stability. AnyRidge Implant system of MegaGen and Partial Extraction Therapy are in harmony with strong initial stability and fast osseointegration.

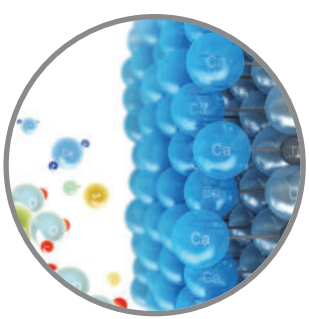
AnyRidge Knife Thread Design

Knife Thread® with an oblique shape is designed of round face and narrow thread. Therefore, it can obtain an optimal ISQ because it is placed without damaging the unique architecture of cancellous bone. Also, it gives even stress distribution.



AnyRidge Xpeed Surface Treatment

XPEED® surface treatment technology is that the Ca^{2+} ions which increase osseointegration rate on fixture surface can reached through the chemical reaction with 0.5 micrometer thickness. Also, there is no problem of absorption of the coating layer after scaling deterioration, BIC and Removal Torque values are excellent.

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Root Submergence Technique

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