

Partial Extraction Therapy (PET) Kit

- Socket shield Technique
- Pontic shield Technique
- Root Submergence Technique





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 recognised by the Stonybrook 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 specialises 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 (ICO)
- 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 (SASPID)
- 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 times and achieving predictability.

Partial Extraction Therapy(PET) Kit Components



Ref.C PET 3000

Maximum Speed (RPM) of Drill

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

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

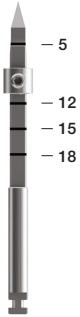
Diamond Drill (Round Diamond)

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)



LD2037

Lance Drill

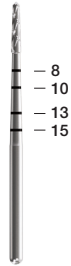
(Ø1.2)



LMD1225 LMD1231

Lindermann Drill

(Ø1.2)



(Ø2.0)



RD2031B RD2025B RD3025K RD3034K

Round Diamond

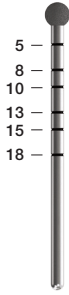
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(Ø3.0)



(Ø3.0)



(Ø4.0)



FS40G

Final Shaper

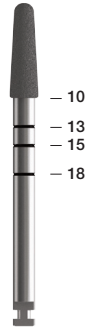
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GD40G

Guided Drill

(Ø3.0)



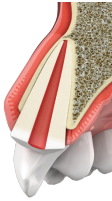
FD3010B

Finishing Diamond

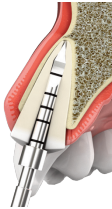
How to use Partial Extraction Therapy(PET) Kit

- Socket shield Technique
- Pontic shield Technique
- Root Submerge Techniuqe

Socket shield Technique



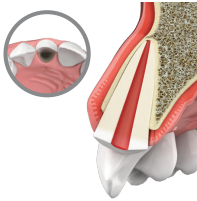
Measure the lenth of the root from the level of the gingiva to the apex. On a CBCT cut the tooth flush with the gum.



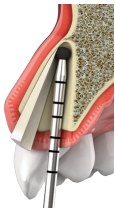
Set the length of the no 1 drill using the depth stop and tighten with therecant driver. Drill with copious cooling and intermittent pump action drilling until you reach the level of the depth stop. Take an X-ray to confirm you have reached the apex of the root.



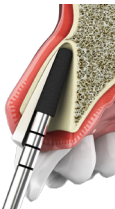
Use the long shanked number 2 drill to section the root from messiah to in a sweeping action that runs from mesial line angle to distal line angle. Ensure that you have measured and marked the lngth of the roof on the drill to make sure you don't drill past the apex.



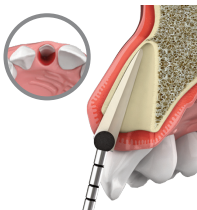
The palatal portion of the root is removed by placing pressure from the palatal side of the palatal portions. Your finger should rest on the buccal portion to ensure no movement of that portion. If it moves it means the palatal portion is not correctly resected.



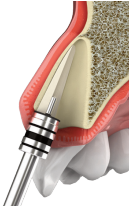
Once the palatal portion has been removed the apical portion needs to be dressed. The root apex and any gut Percha material is removed using the no 3 round drill. This drill is placed at the most apical portion, placed against the root and moved occlusal in a painting motion. The drill should not be pushed apically as this may lead to perforation of the buccal plate.



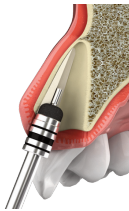
The final preparation of the internal section reshaping and smoothing off the internal section of the shield.



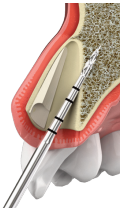
With the apical area finished the number 3 round drill is used to reduce the coronal portion as close to the crest of the bone as possible. Make sure that the gingiva is retracted with a gingival retractor to prevent damage to the gum during drilling.



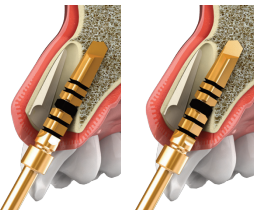
Final preparation of the coronal portion. The shield is placed at bone level. Use the CBCT or bone sounding to measure the depth of the bone. Use the markings on the drill to get the shield to the correct depth.



The final preparation of the internal section reshaping and smoothing off the internal section of the shield. This creates the chamfer that allows the soft tissue to grow between the shield and the implant.



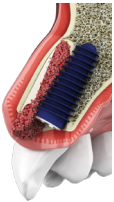
Implant preparation according to the normal protocols of AnyRidge or AnyOne implants.



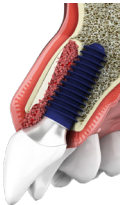
After that, it needs step-by-step drilling.



The implant should be placed about 0.5mm above the chamfer to allow maximum space between the implant and the shield. This will reduce the risk of internal shield exposure. The implant can touch the shield if there is minimal space however larger the gap the better.



The jump cap should be filled with some form of synthetic bone. This can be done either before or after the implant has been placed.

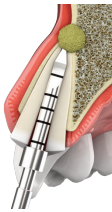


Whether a provisional crown or custom abutment with an emphasis on the distance between the shield and the abutment is crucial. We need 2-3mm of space to allow good soft tissue coverage of the shield. Failure to do this may lead to an internal shield exposure.

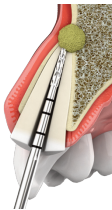
Pontic shield Technique



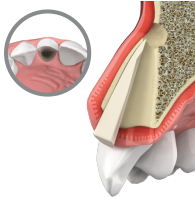
Measure the length of the root from the level of the gingiva to the apex. On a CBCT cut the tooth flush with the gum.



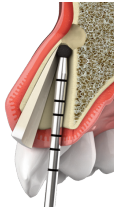
Set the length of the number 1 drill using the depth stop and tighten with the relevant driver. Drill with copious cooling and intermittent pump action drilling until you reach the level of the depth stop. Take an X-ray to confirm you have reached the apex of the root.



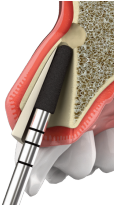
Use the long shanked number 2 drill to section the root from mesial to distal in a sweeping action that runs from mesial line angle to distal line angle. Ensure that you have measured and marked the length of the root on the drill to make sure you don't drill past the apex.



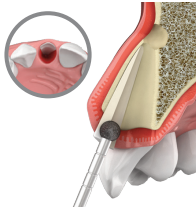
The palatal portion of the root is removed by placing pressure from the palatal side of the palatal portions. Your finger should rest on the buccal portion to ensure no movement of that portion. If it moves it means the palatal portion is not correctly resected.



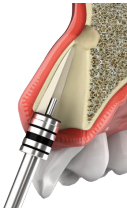
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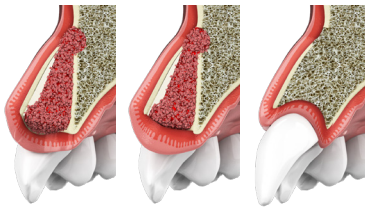
The final preparation of the internal section reshaping and smoothing off the internal section of the shield.



With the apical area finished the number 3 round drill is used 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 drilling.



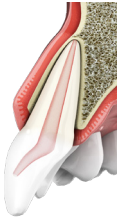
Final preparation of the coronal portion. The shield is placed at bone level. Use the CBCT or bone sounding to measure the depth of the bone. Use the markings on the drill to get the shield to the correct depth.



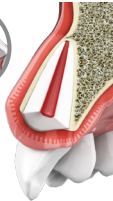
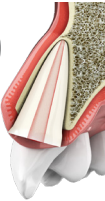
The socket is filled with a bone substitute after the socket has been curetted and all the infected material removed. A soft tissue graft is used to cover the socket. This can either be in the form of a connective tissue graft or with a free gingival graft that has been de-epithelialised. The tissue 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 immobile. Once healed an ovate pontic is used with light pressure to shape the soft tissue.

Root Submergence Technique

Vital Root Submergence

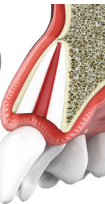


Root submergence of a non vital root requires a Root canal treatment that is well sealed and has NO apical radiolucency.

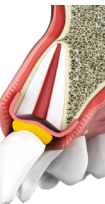


Cut the crown off the tooth to gingival level.

Use the large number 2 round bur to then reduce the root surface to bone level. The internal part should be about 2mm below the bone level to allow adequate soft tissue thickness between the root and the future pontic. The exposed vital root is left exposed. No filling material is applied to the surface.

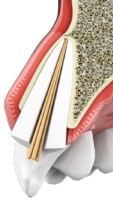


Use the long shanked number 2 drill to section the root from mesial to distal in a sweeping action that runs from mesial line angle to distal line angle. Ensure that you have measured and marked the length of the roof on the drill to make sure you don't drill past the apex.

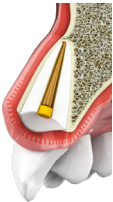
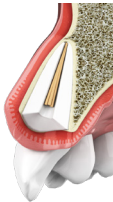


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Non-vital Root Submergence

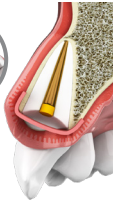


Root submergence of a non vital root requires a Root canal treatment that is well sealed and has NO apical radiolucency.

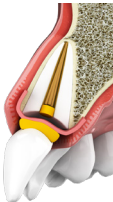


Cut the crown off the tooth to gingival level. Use the large number 2 round bur to then reduce the root surface to bone level. The internal part should be about 2mm below the bone level to allow adequate soft tissue thickness between the root and the future pontic

Remove 2mm of root canal material and seal the canal with glass ionomer cement or MTA.



Coverage of the root is essential using either a free gingival graft or a vascularised 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 so as not to put too much pressure on the gingiva which could lead to exposure of the root.

Perfect matching with **AnyRidge**

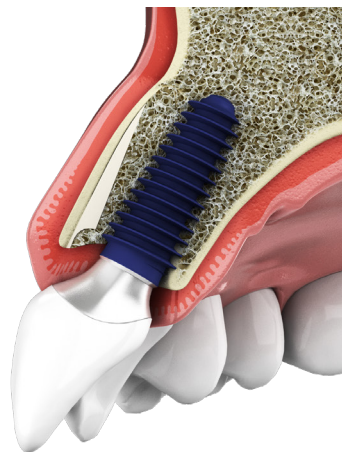
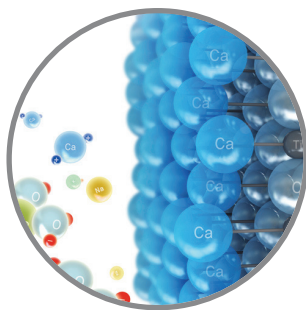
The strong point of Root membrane technique is Immediate Implant Placement. Strong initial stability guarantees a high success rate. AnyRidge Implant system of MegaGen and Root membrane technique are in harmony with strong initial stability and fast osseointegration.

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 be 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.





Partial Extraction Therapy(PET) Kit

Socket shield Technique
Pontic shield Technique
Root Submergence Technique



Head Office & Factory T. +82-1544-2285
45, Secheon-ro, 7-gil, Dasa-euo, Dalseong-gun, Daegu, Korea

Gangnam Office T. +82-1566-2338
Megagen Tower, 607, Seolleung-ro, Gangnam-gu, Seoul, Korea