





ATB Auto-Tooth Bone **Graft System**

- ATB Facility System

Successful long term dental implant therapy requires bone graft material to be remodeled into patient's own bone that can withstand the forces of mastication,

100% consent for extraction, 100% consent for implants

For many patients, prospects of extracting teeth are often roadblocks to having implants done. However, patients are much more willing to have necessary teeth extracted and have implant surgery as they learn about Auto-Tooth Bone grafting.

Why is Auto-Tooth Bone graft material preferred?

1. ATB is a safe bone graft material.

It is the safest bone graft material as it uses patient's own tooth - a part of his/her own body tissue which will turn into biologically superior functional bone.

2. A bone graft material that truly remodels into patient's own bone.

Hydroxyapatite from artificial bone source(xenograft/synthetic) do not undergo bone remodeling process. However, Auto–Tooth Bone graft material undergoes genuine bone remodeling process to become superior implant supporting bone as the Hydroxyapatite(β –TCP) and other organic/ inorganic materials are accepted as patient's own (superior biocompatibility to patient as the genetic sources are the same).

3. Cost-effective bone graft material.

ATB is more economical than any other bone graft material as $0.5 \sim 0.7$ cc of graft material is produced from a typical premolar and $0.6 \sim 1.0$ cc of graft material is produced from a molar.

4. ATB is the most similar bone graft material to alveolar bone in histological analysis.

	Inorganic	Organic	Crystal	Remodeling
Components of tooth	65%(β -TCP)	35%(collagen)	H · A(β –TCP) 3Ca3(po4)2Ca(oh)2	+++
Components of alveolar bone	61%	32%	H·A	+++
Components of Auto-Tooth bone	55%	45%	$H \cdot A(\beta - TCP)$	+++
Other Components` xenograft & synthetic graft	99%	0%	Apatite	±

ATB is not just another graft material.

ATB bone graft material genuinely remodels into patient's own bone that can withstand the forces of mastication.





- Osteoconductive bone graft material with superior biocompatibility.
- Osteoinduction bone graft material with superior and rapid bone remodeling effect.
- Type 1 collagen identical to alveolar bone.
- Inorganic components contained are identical to alveolar bone (H.A, ACP, OCP, TCP)

Example of hudration with patient's blood



Hydration of ATB particulate material using patient's blood from extraction or surgical site.



No additional bone carrier instrument is needed due to excellent handing characteristic.

Place into graft site after sufficient hydration with saline solution or the patient's blood.

ATB – Block



- Excellent handling characteristic with slightly compressive and flexible block after hydration.
- No bone screw of memvrand needed for fixation
- Highly biocompatible bone graft material with a natural source of h-BMP
- Bone graft material for vertical/horizontal augmentation

ATB-Block and alveolar bone have similar structure.

- Cortical Bone Graft Material
- · When used as graft material, maintains volume for long period, but results in slow remodeling.
- Cancellous Bone Graft Material
 - · When used as graft material, promotoes fast osteoconduction and osteoinduction, but can fail to maintain bone volume/density.



Contical layer

laver

ATB - Block a cross-sectional view



- 1. Returns to original tooth color after complete hydration.
- 1) The side with greater number of smaller tubules is cancellous side.
- : This side should face inside/away from mucosa/towards underlying bone when positioned.
- 2) The side with larger tubules is the cortical side.
- : This side should face outside/towards mucosa/away from underlying bone when positionde



2. Using a 1/4 round bur, reduce the size of the ATB-Block to appropriate dimensions.



3. ATB design completed



4. - Place the appropriately sized ATB block into its place. - Using its flexible and compressive characteristic, the ATB-Block graft can often be secured into its place.

* A single tooth can be processed into two forms : ATB-Block & ATB-Powder.



After tooth extraction



Immdeiately after ATB-Powder placement



9 months postoperative CT



13 months postoperative CT

Clinical Case 2



After tooth extraction



Implant placement



ATB-Block placement



Immediately postiooerative CT





9 months postoperative CT



1. X-ray Before tooth extraction



2. Before tooth extraction



3. After tooth extraction





5. 1st ATB-Powder graft materials placement



6. Suture



4. Incision design for easy surgery

7. After 7 days from ATB-Powder graft



8. After 30 days from ATB-Powder graft



9. Implant placement



10. 2nd ATB-Powder graft materials placement



13. After 5 months from 2nd ATB–Powder graft



11. After 3 days from 2nd ATB-Powder graft



14. After 14 months from 2nd ATB-Powder graft



12. After 3 days from 2nd ATB-Powder graft



15. After 19 months from 1st ATB-Powder graft

Auto-Tooth Bone Facility System

Auto - Tooth Bone Facility System



5. Process the tooth into ATB graft materials





ATB Auto-Tooth Bone Graft System

- ATB Chairside System



Auto-Tooth Bone Graft Material The World's First Fully Automated Processor!





- Chairside automated processing system with anti-contamination enclosure.

2. Cost Effective Capacity

- Up to 3cc ATB-Powder or up to 4 ATB-Blocks per each processing.

3. High-quality Technical Design for Anti-contamination

- Thousands of reagent reactions per minute, assuring sterility design of processed graft material.



Before surgery (15~17, 25~27)

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Placing implants & ATB graf

ATB-Powder



After placing implants & ATB graft (15~17, 25~27)



3 weeks after ATB graft



2 months after ATB graft



3 weeks after ATB graft



2 months after ATB graft



7 months after placing implants, ATB grafting and final prosthesis

Who?

For the patient, By the dentist, ATB Chairside System

BonMaker is an advanced system for processing patient's tooth into ATB("Auto-Tooth Bone") graft material.

ATB Graft Materials Process



1. Patient's own extracted tooth



2. Removing foreign materials





3. Selecting the size of particulate



6. Immediate ATB-Powder grafting



6. Immediate ATB-Block grafting



5. ATB-Powder process completed



5. ATB-Block process completed



4. Operate BonMaker for ATB–Powder / ATB–Block

When?

When GBR is indicated immediately, only 19 minutes 50 seconds [ATB-Block)35 minutes 50 seconds] is needed for the necessary ATB graft material preparation.

Clinical Case 2



1. Before tooth extraction



2. 40 days After tooth extraction



3. Placing implant



4. After placing implant



5. ATB-Powder & Block graft materials



6. Grafting ATB-Powder & Block



7. Right after ATB-Powder & Block graft



12. 20 months after ATB graft



11. 20 months after ATB graft

- Implant placement with GBR using patient's previously extracted teeth which were in cold storage.



1. Before tooth extraction



2. implant placemen - 12mm Defect



3. ATB graft materials placement



4. Suture



5. 3 weeks after ATB graft



6. 4 weeks after ATB graft



7. 5 months after ATB graft



8. 17 months after ATB graft

Clinical Case 4



1. Before tooth extraction



5. Implant placement



9.1 month after placing ATB graft material



2. After tooth extraction



6. ATB grafting at sight



10. 40 days after temporary prosthesis delivery



3. Before placing implant -10mm Defect



7. After placing ATB graft material



11. CT after 80 days from ATB graft



4. ATB-Powder & Block graft material



8. CT Immediately after ATB graft



12. CT after 33 months from ATB graft

Where?

Dental clinic center commonly faces GBR cases and considers long-term survival and success of dental implant.

ATB Chairside System

- BonMaker in an advanced system for processing patient's own tooth into 'Auto-Tooth Bone' particulate & block graft material for GBR procedures.
- BonReagent is exclusively used for processing 'Auto-Tooth Bone' graft material, which have excellent Osteoinduction and
 - Osteoconduction properties, in this BonMaker Sysme.

BonReagent BonReagent Sticker for Patient charts BonReagent for ATB-Powder/Block · Lot No. : · Date of Manufacture : · Processing Date · Volume : Boe Autor Bon Reagent BonMeter Bon Reagent В BLOCK BLOCK BIOCK BonReagen

Reagent processes patient's own extracted tooth into 'Auto-Tooth Bond' particulate material which provides excellent Osteoinduction and Osteoconduction properties. Reagent processes patient's own extracted tooth into 'Auto-Tooth Bond' block material which provides excellent Osteoinduction and Osteoconduction properties.

What?

Turning patient's extracted tooth into safe and reliable Auto-Tooth Bone graft material without utilizing artificial materials, materials from animals or from a deceased person,

More Secure

- Safe and cost-effective in-house automated bone grafting material producing system.
- Automated processing system minimizes contamination possibilities.



Before BonMaker Processing



After BonMaker Processing

Geobacillus



Before BonMaker Processing



Before BonMaker Processing



After BonMaker Processing



After BonMaker Processing



4 Hours

Cell Adhesion



12 Hours



Cell Adhesion

02-Jul-14

24 Hours

Cell adhesion test results show that ATB graft material has excellent biocompatibility. Prof. Gyoo Cheon Kim, Ph.D.

Sterilized Condition Test Results

Test results show that ATB-Powder processed by BonMaker is 100% sterilized, eliminating E. Coli, Geobacillus, C. Albicans, & etc

Pusan National University Dept. of Oral Anatomy Prof. Gyoo Cheon Kim, Ph.D.

How?

A single automated processing dydle yields the necessary ATB graft material.



- Stat of the art design and manufacturing assures sterility of the graft material.
- Thousands of reagent reactions per minute.
- The kit is design to be sterilized prior to each use.



BonMaker Kit



Tooth Grinder

* State if the art design and manufacturing for cost-effective & safe ATB graft material.

Why?

A single processing cycle can yield up to 3cc of Auto-Tooth Bone graft material-cost-effective capacity. Designed and manufactured to process 2~3 molars of 3~4 premolar at same time.

Bonbin

- Maximum capacity 3cc (4pcs, blocks)
- Processed ATB graft materials ready for use are free of unreacted reagents or unprocessed materials.







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· The product and technology are protected by patent law.

 \cdot Any modifactions, additions, adaptations and re-arrangements are not allowes.

MADE IN KOREA