

ATB Auto-Tooth Bone Graft System

ATB Facility System

This is an advanced system for processing patient's teeth into "Auto-Tooth Bone" particulates or block graft material by having the extracted tooth processed in an off-site facility.

ATB Chairside System

BonMaker is an in-house advanced system for processing patient's tooth into "Auto-Tooth Bone" particulate & block material.





ATB Auto-Tooth Bone
Graft System

- ATB Facility System

Safe & reliable dental implant by Auto-Tooth Bone graft material.

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?

▶ 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.

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

Hydroxyapatites 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 hydroxylapatites (β -TCP) and other organic/inorganic materials are accepted as patient's own (superior biocompatibility to patient as the genetic sources are the same).

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.

▶ Cost-effective bone graft material

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

▶ 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) $3Ca_3(po_4)_2Ca(oh)_2$	+++
Components of alveolar bone	61%	32%	H·A	+++
Components of Auto-Tooth bone	55%	45%	H·A (β -TCP)	+++
Other companies' 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.

ATB – Powder



- Osteoconductive bone graft material with superior biocompatibility
- Osteoinductive 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)

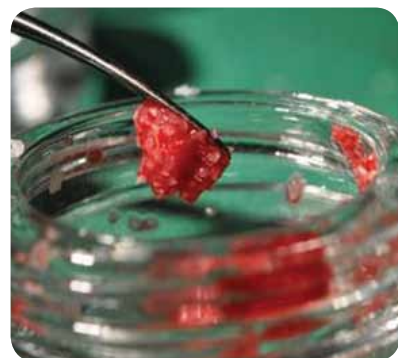


Place into graft site after sufficient hydration with saline solution or the patient's blood.

Example of hydration 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 handling characteristic

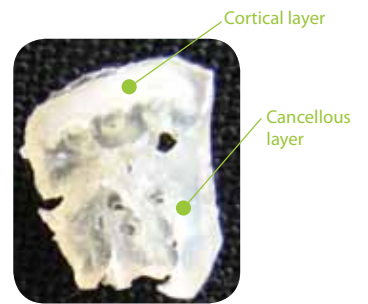
ATB – Block



- Excellent handling characteristic with slightly compressive and flexible block after hydration.
- No bone screw or membrane 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, promotes fast osteoconduction and osteoinduction, but can fail to maintain bone volume/density.



ATB-Block : a cross-sectional view

01



Returns to original tooth color after complete hydration.

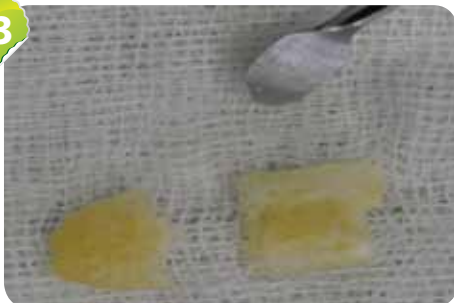
- ① - The side with greater number of smaller tubules is cancellous side.
 - This side should face inside/away from mucosa/ towards underlying bone when positioned
- ② - The side with larger tubules is the cortical side.
 - This side should face outside/towards mucosa/away from underlying bone when positioned

02



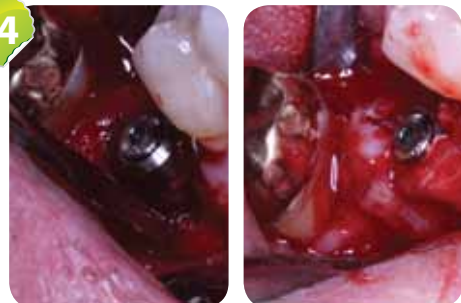
Using a $\frac{1}{4}$ round bur, reduce the size of the ATB-Block to appropriate dimensions.

03



ATB design completed

04



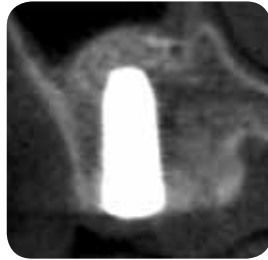
- Place the appropriately sized ATB block into its place.
- Using its flexible and compressive characteristic, the ATB-Block graft can often be secured into its place.

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

Clinical Case ①



After tooth extraction



Immediately after ATB-Powder placement

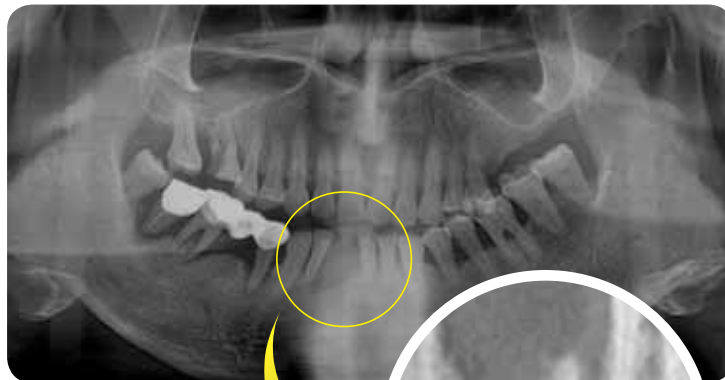


9 months postoperative CT

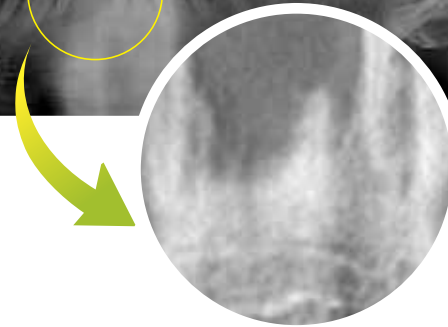


13 months postoperative CT

Clinical Case ②



Before tooth extraction



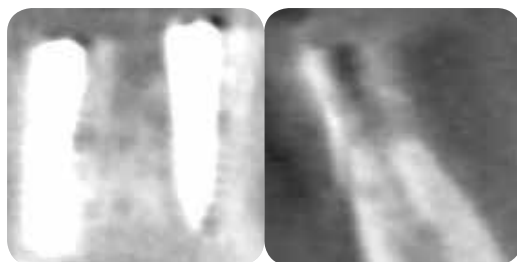
After tooth extraction



Implant placement



ATB-Block placement



Immediately postoperative CT



9 months postoperative CT

Clinical Case ③



Before tooth extraction



After tooth extraction



Implant placement



Immediately after ATB-Block placement



After tooth extraction



Immediately after ATB-block graft placement

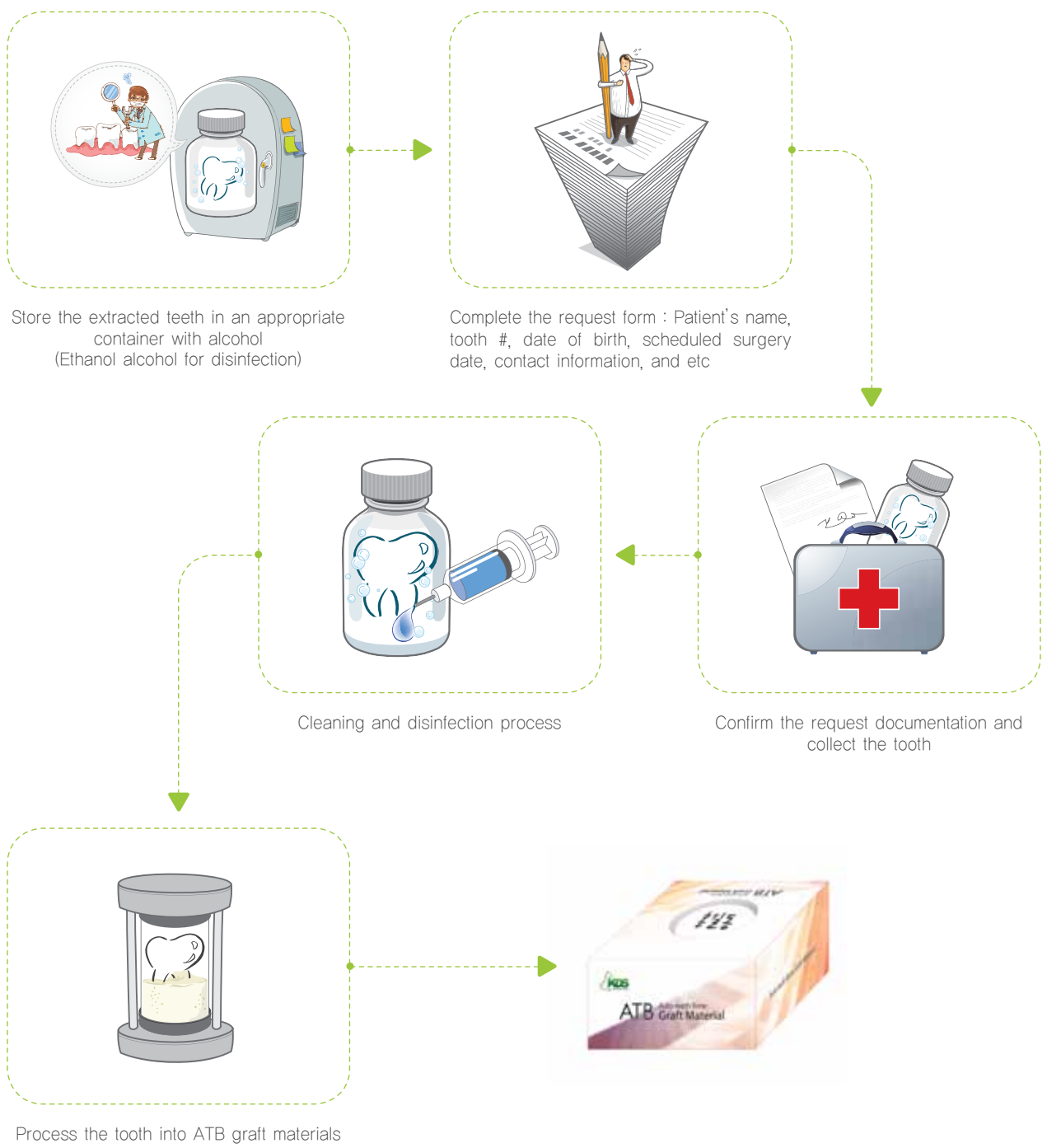


4 months postoperative CT



10 months postoperative CT

ATB Facility System





ATB Auto-Tooth Bone Graft System

– ATB Chairside System

Making Superior Bone Graft Material from patient's own extracted tooth and utilizing it while placing implants – all in a single visit.



ATB Powder 19 Minutes 50 Seconds
ATB Block 35 Minutes 50 Seconds

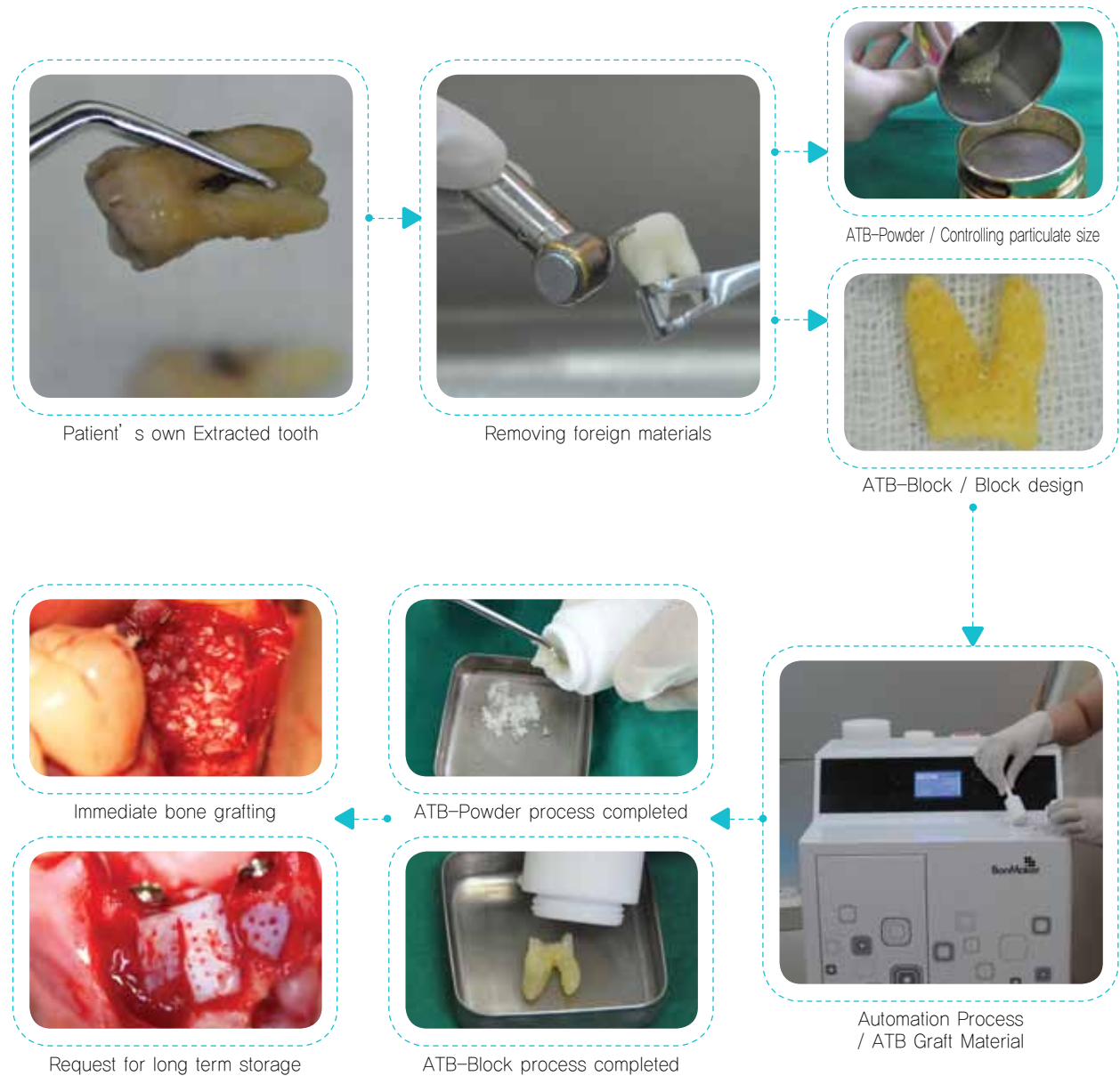
Who?

For the patient, By the dentist,
ATB Chairside System



BonMaker is an advanced system for processing patient's tooth into ATB graft material

ATB Graft Materials Process



When?

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

Clinical Case ④



① Before tooth extraction



② 40days after tooth extraction



③ Placing Implant



④ After placing Implant



⑤ ATB-Powder & Block graft materials



⑥ Placement ATB graft materials



⑦ Immediately after placing ATB graft materials



⑧ 6weeks postoperative



⑨ 4months postoperative



⑩ 16months postoperative



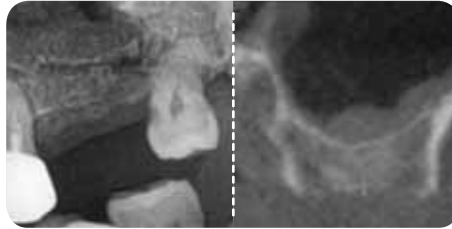
⑪ 20months postoperative

Clinical Case ⑤

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



① Before tooth extraction



② 2months after tooth extraction



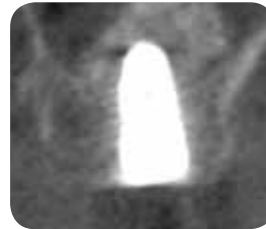
③ Cold storage of extracted tooth



④ ATB-particulate material processing



⑤ Immediately after bone grafting



⑥ 2 months after grafting



⑦

Clinical Case ⑥



① Before tooth extraction



② After tooth extraction



③ Before Placing Implant - 10mm Defect



④ ATB-Powder & Block graft materials



⑤ Implant placement



⑥ ATB graft materials placement



⑦ Immediately after placing ATB graft materials



⑧ Immediately postoperative CT



⑨ 1month after placing ATB graft materials



⑩ 40 days postoperative after temporary prosthesis delivery



⑪ 80 days postoperative CT



⑫ 180 days postoperative CT

Where?

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

ATB Chairside System

- BonMaker is an advanced system for processing patient's own tooth into "Auto-Tooth Bone" particulate graft material for GBR procedures.
- BonReagent-P is exclusively used for processing Auto-Tooth Bone particulate material, which have excellent osteoinductive and osteoconductive properties, in this BonMaker System.



Reagent processes patient's own extracted tooth into "Auto-Tooth Bone" particulate material which provides excellent osteoinductive and osteoconductive properties.

Reagent processes patient's own extracted tooth into "Auto-Tooth Bone" Block material which provides excellent osteoinductive and osteoconductive properties.

What?

Turning patient's extracted teeth into safe and reliable Auto-teeth 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.

Escherichia Coli

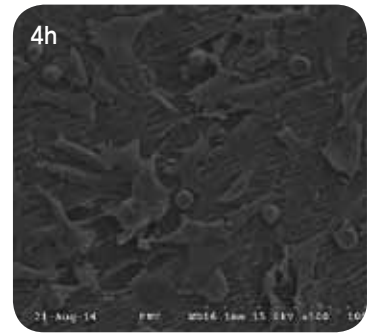


Before BonMaker processing



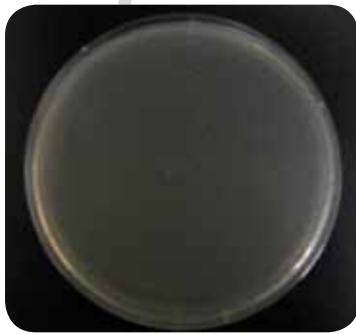
After BonMaker processing

Cell Adhesiion



4h

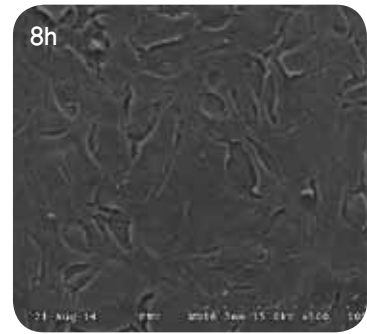
Geobacillus



Before BonMaker processing

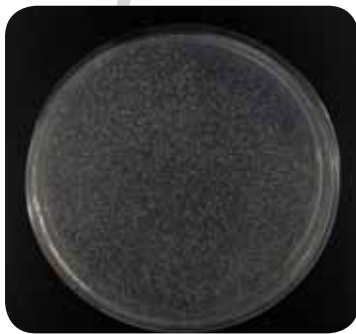


After BonMaker processing



8h

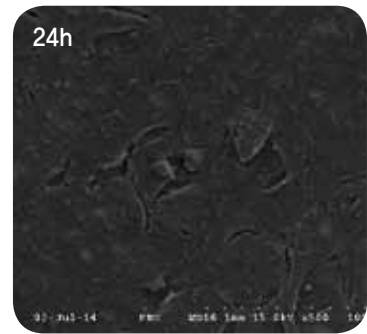
C. Albicans



Before BonMaker processing



After BonMaker processing



24h

Sterilized condition Test results

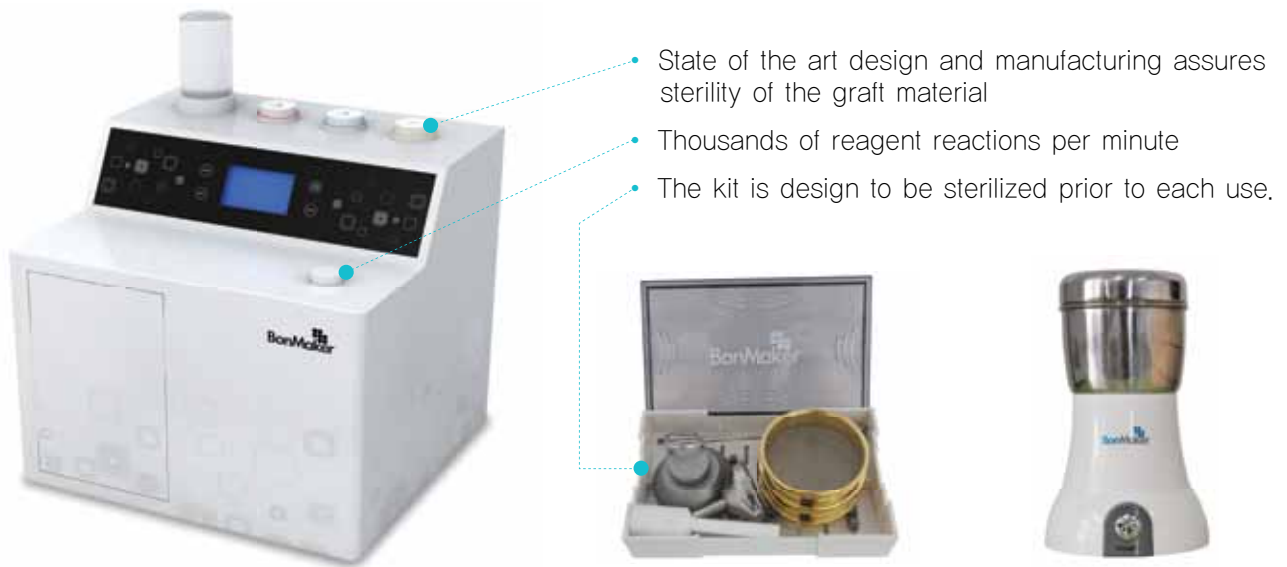
Test results show that ATB-Powder processed by BonMaker is 100% sterilized, eliminating E. Coli, Geobacillus, C. Albicans, & etc
Pusan National University Dept. of Oral Anatomy Prof. Gyoo Cheon Kim, Ph. D.

Cell adhesion test results show that ATB graft material has excellent biocompatibility.

Prof. Gyoo Cheon Kim, Ph. D.

How?

A single automated processing cycle yields the necessary ATB graft material



- State 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.

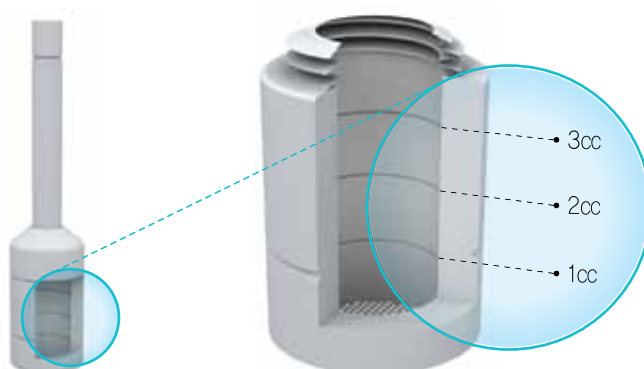
※ State of the art design and manufacturing for cost-effective & safe ATB graft material.

Why?

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

• Bonbin

- Maximum capacity 3cc
- 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 (10-1175051 / 10-1299395 / 10-1326609.)
- Any modifications, additions, adaptations, and re-arrangements are not allowed.
- The device is non-medical appliance.

MADE IN KOREA