VLADMIVA

SURGICAL

osteoplastic materials

Bioplast-Dent
Klipdent

THE ART OF REGENERATION

made in Russia
JSC EP «VladMiVa»

www.vladmiva.ru

DEVELOPMENT • PRODUCTION • SALE

Russian enterprise «VladMiVa» was created in the end of the 20th century. The company produces a wide range of materials for regeneration of the lost hard and soft tissue, used in implantial, parodontal, maxillofacial, anaplastic, reconstructive surgery and also orthopedic.

During 12 years the company have researching in the field of bone tissue regeneration. Our aim is to create and provide for the medical community with high effective bone filler materials, which is able to form organotypic regenerate in the defect area, indistinguishable in morphology and strength characteristics from undamaged surrounding tissues.

This catalog presents a wide range of products, where dentists and maxillofacial surgeons can choose the materials for any clinical situation.

Have a nice work!

CONTENT

Belgorod, Russia - 2018

Bioplast-Dent · Klipdent

MORE THAN 150 000
PERFORMED OPERATIONS

SUCCESSFUL
CLINICAL RESULTS

SCIENTIFIC BASEMENT
(our own research center)

EXPORT FOR 60 COUNTRIES
AROUND THE WORLD

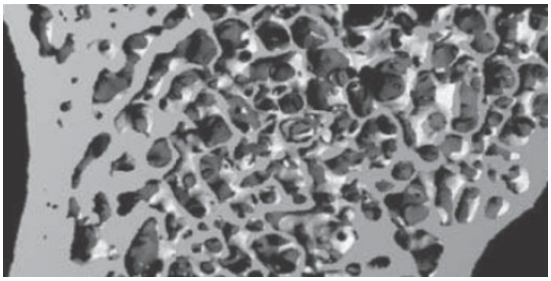
MORE THAN 100
FORM OF ISSUANCE

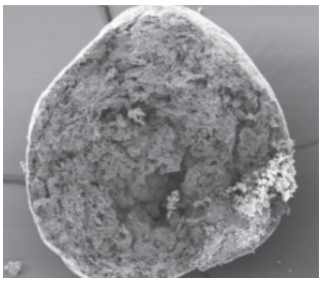
MORE THAN 50 000 UNITS
PRODUCED LAST YEAR

CLASSIFICATION OF MATERIALS FOR BONE TISSUE RESTORATION

AUTOGENOUS
(the donor is patient himself)

ALLOGENIC
(the donor is another human)



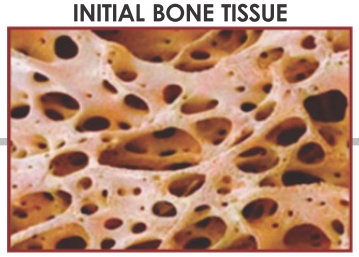


XENOGENIC
(the donor is an animal)

ALLOPLASTIC
(synthetic, including the ones made of natural minerals, corals)

OSTEOPLASTIC MATERIALS PRODUCTION TECHNOLOGY

INITIAL BONE TISSUE



1. FERMENTATIVE-CHEMICAL

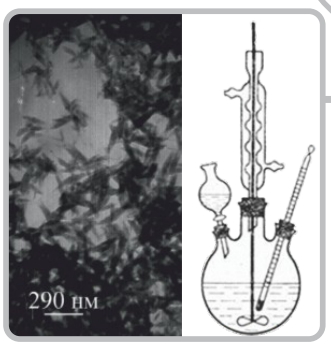
«Bioplast-Dent»

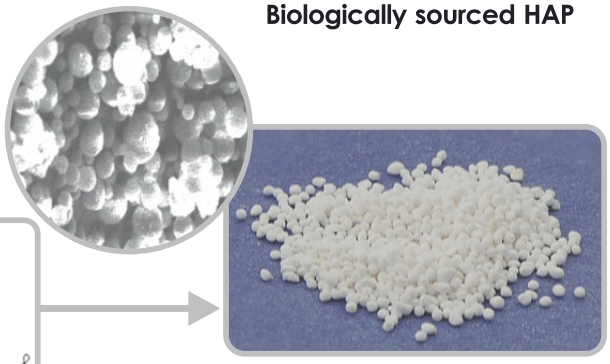
- Bone collagen
- Porosity unchanged
- Biologically sourced HAP

2. THERMIC

«Bioplast-Dent»
deproteinized
Biologically sourced HAP

3. GRANULES





«Klipdent»
Synthetic origin HAP

Osteoplastic material «Bioplast-Dent» is high-purification rate bone frame obtained from animals that passed strict veterinary control. This biomaterial with saved biologically sourced hydroxyapatite and bio modulated porous structure is able to fixate active cells in the biomaterial structure without reducing biological activity.

The technology of obtaining of the material «Bioplast-Dentт» is based on the phased, multistaged purification of spongiform (cortical) bone tissue by method of chemical-fermented processing or deproteinization. The use of the method of supercritical fluid extraction allows to perform a deep and safe cleaning of the microporous structure of bone tissue, maximizing biocompatibility with the tissues of the human body. The material is devioded of cells elements and proteins faction.

Bioplast-Dent is a perfect frame for the germination of blood vessels and the growth of cells from the bone, because it has trabecular and diaphyseal porosity structure of tubular bones (micropores, macropores, Havers channels)

Biological origin hydroxyapatite promotes angiogenesis, migration and attachment to the surface of granules of stromal stem cells of the bone marrow, their differentiation into osteoblasts and reparative osteogenesis.

The material has osteogenic (osteoconductive and osteoinductive) properties, contains highly purified sulfated glycosaminoglycans within the biological norm (not less than 800 μg / cm^3).

Biomaterial «Bioplast-Dent» possess high biological compatability, which encourages the absence of immune reactions of recipient's organism, and also it is compliant with all types of transplants, implants, endo retrainers.

The material «Bioplast-Dent» is designed to restore the structural integrity of bone defects and increase the osteogenic potential of bone tissue. It is applied in the field of surgical stomatology and maxillofacial surgery for:

- filling of defects after cystectomy, root resection;
- filling holes of removed teeth, to prevent atrophy of the contour of the alveolar ridge;
- filling cavities with sinus-lifting;
- reconstruction of the alveolar bone;
- closure of perforations of the maxillary sinus and the mandibular canal;
- filling parodontal defects;

and also in traumatology, orthopedics, ophthalmic surgery and other fields of medicine.

ACCORDING TO THE LAWS AND PRINCIPLES OF BIOLOGY

Syntetic material, which is a highly purified granule β-tricalcium phosphate and (or) hydroxyapatite, for the creation of an optimal environment for the regeneration of bone tissue

The material based on calcium phosphates, produced after the technology of obtaining of porous spherical granules: micro- (up to 10mk) and macro- (150-200 mk). Porosity of granules encourages penetration of osteogenic cells, vascularization and diffusion of biological liquids among particles of the material. The presence of interconnected pores provides high bioactivity.

Material **«Klipdent» PL** is a Mineral-polymer granules (β–tricalcium phosphate in polyactydglycole matrix/PLGL), of specified porosity, morphology. and architectonics, encourages acceleration of integration of implant with bone tissue.

Materials **«Klipdent»** containing sodium hyaluronate **(GL)** and collagen **(KL)**, have a stimulating effect on cell growth and promote activation of reparative osteogenesis in the area of trauma, accelerate the process of differentiation of newly formed bone tissue, which is expressed both in a sharp increase in the specific weight of bone components of the regenerate, and in the more intensive maturation of bone substance. The rate of resorption of the material corresponds to the rate of formation of natural bone tissue.

Materials «Klipdent» are used as an osteoplastic material optimizing the regeneration of bone tissue in surgical stomatology, general and maxillofacial surgery, also in traumatology and orthopedics.

Periodontia: filling of double- or multi-walled bone pockets, as well as bi- and tri-furcation of teeth, augmentatioin of atrophied maxillary sinus.

Implantology: sinus-lift or lifting of sinus basement, filling of alveolar defects for maintenance of maxillary sinus after extraction of tooth, filling of extraction defects with the purpose of creation of base for implant.

Cyst deffects: defects after extirpation of bone cyst, defects after resection of root apex and defects after removal of impacted teeth by surgical way, as well as other multigrid bone defects of alveolar outgrowths and facial skull bones.

INTENDED FOR CREATION OF MECHANICAL BARRIER, PREVENTING MIGRATION OF SOFT TISSUES INTO BONE DEFECT AT SURGICAL OPERATION

Bioplast-Dent

NATURAL, ELASTIC, RESORBABLE, DOUBLE-LAYER, INTERFIBER COLLAGEN STRUCTURE (DERM)
TYPE I AND II OF HIGH LEVEL PURIFICATION

uneven surface
(at the direction of bone)
promotes growth of bone cells
dense surface
(at the direction of soft tissues)
prevents germination of fibrotic tissue
into the defect zone

Klipdent®-MC

RESTORED, RESORBABLE BY CROSS-LINKS FORMATION, INTERFIBER COLLAGEN STRUCTURE
TYPE II OF HIGH LEVEL PURIFICATION

fibrillar structure
membranes has good
adhesion, both from the side
in direction to bone, as well as
in direction of soft tissues.

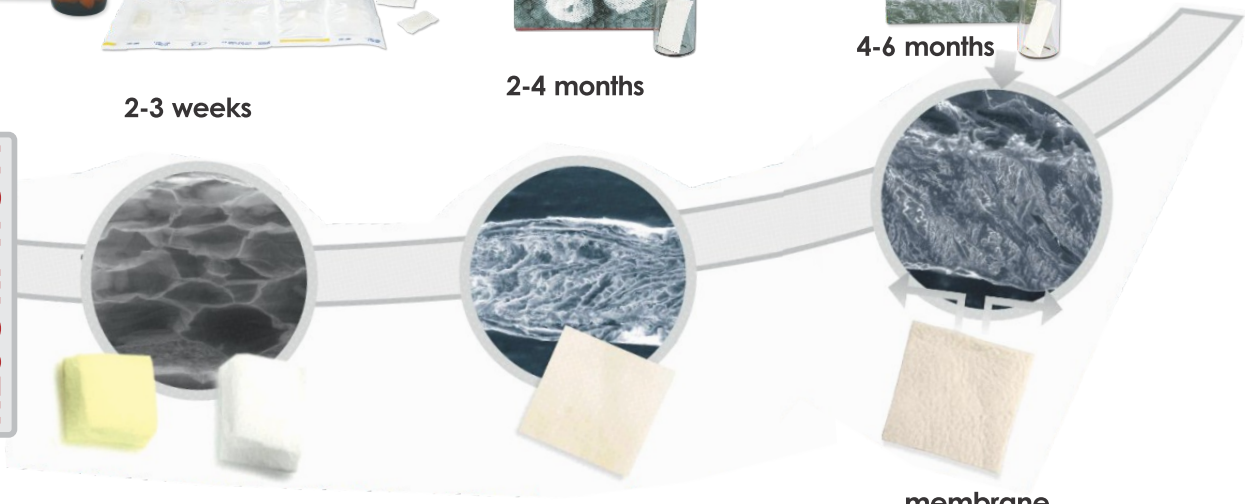
THE TIME OF RESORPTION

2-3 weeks

2-4 months

4-6 months

RESORPTION



sponge Alvanes
10 x 10 x 8 mm

sponge Alvabel
10 x 8 x 8 mm
20 x 8 x 8 mm

membrane Klipdent-MC
15 x 15 mm
15 x 25 mm
25 x 25 mm

membrane Bioplast-Dent
15 x 15 mm
15 x 25 mm
25 x 25 mm

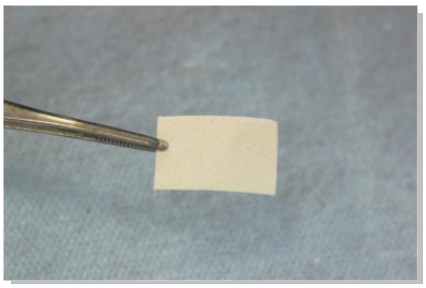
Natural collagen

Capillary bleeding
Flap surgery
Filling alveolar socket
Periodontal defects

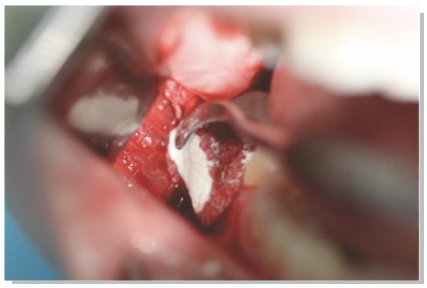
As a mechanical barrier, a warning
the migration of soft tissues to a bone defect
with surgical operation

- Biomaterials promote binding of growth factors, thrombocyte aggregation, osteoblasts and osteoclast, which causes remodelling of bone tissue and stimulates bone deffect reparation
- Maintain barrier function in the process of regeneration of tissue without fibro-formations, doesn't contain autogenous factors, is able to integrate into surrounding tissue.
- Easily modeled, possess optimal stiffness and plasticity
- Disintegrate into amino-acids under the influence of ferments, by natural processes, doesn't contain toxic products of decay.

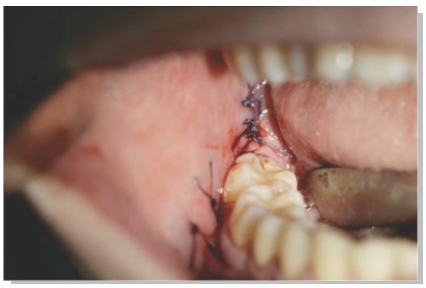
CLINICAL ISSUES



1. Membrane «Bioplast-Dent» («Klipdent»).



2. Covering augmentin by collagen membrane.



3. Soft tissue sealing.

Bioplast-Dent *gel*

based on chondroitin sulfate and chlorhexidine

- for elimination of edema and inflammation of tissues of oral mucosa;
- in practice of dental surgery, at injuries, fractures, splinting of the jaws;
- as well as for prophylaxis and curing of periodontitis, gingivitis and stomatitis.

Composition of gel «Bioplast-Dent» includes chondroitin sulfate (sulfated glycosaminoglycan – sGAG), which encourages healing of inflamed periodontal due to sinergetic action, directed at reduce of activity of of proteolytic enzymes and hyaluronidases pf bacterial flora.

Coating of the material «Bioplast-Dent»-periodontal gel after wound closure

Klipdent® – *gel*

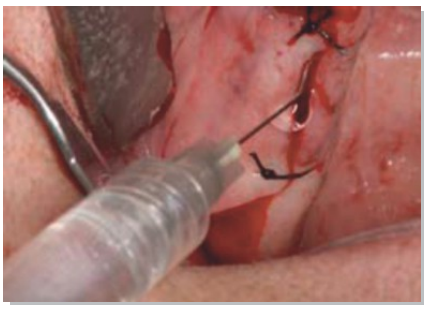
based on hyaluronic acid

- for reliable protection and accelerated healing of injuries after surgical intervention;
- for covering of defect after build bone, optimization of work with materials;
- for acceleration of bone regeneration, reduce of scarring in aesthetically important body areas and acceleration of injury healing after implanting process;
- for support of process of regeneration after surgical treatment of periodontium, treatment of gingivitis, superficial marginal periodontitis.

Sodium hyaluronate which «Klipdent» comprises, is a biopolymer of high degree of purification, containing repeating disaccharide residues N-acetylglucosamine and glucuronic acid.

1. Osteoplastic material mixed with «Klipdent»-gel.

2. Filling a removed tooth hole with prepared osteoplastic material.



3. Covering by material «Klipdent»-gel before sealing.

Alvabel – *gel*

based on xanthan gum and chlorhexidine

- used for the treatment of periodontal and peri-implant pockets after mechanical removal of deposits;
- due to its adhesive properties, the gel acts as a sterile blocking remedy with prolonged release of the antiseptic, promoting the healing process;
- the mesh structure of the gel forms a guaranteed barrier for a period of not less than 15 days, limiting the repeated colonization of microorganisms in the dentogingival pockets after mechanical treatment, and also in the case of peri-implantitis.

The combination of two types chlorhexedin with xanthan gum provides mechanical protection of the treated pockets till two weeks, inhibiting bacterial recolonization, which contributes to a more accelerated healing process.

Periodontal pocket

Peri-implantitis pocket

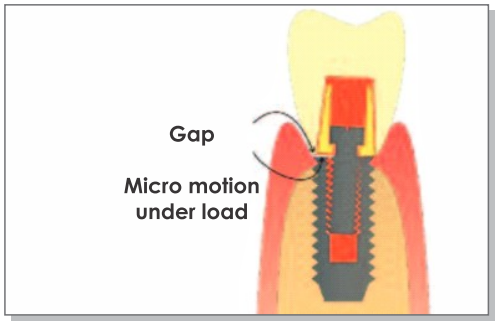
Germabat – *gel*

based on modified silicone matrix and thymol

- it is used to seal implant gaps to avoid peri-implantitis;
- reliably seals all kinds of two-component implants;
- prevents penetration of microbes and bacteria into the implant, eliminating the main cause of peri-implantitis.

The material creates an impenetrable barrier for microorganisms.

Recomended for use at all stages of implantation and prosthetics on implants, starting from screwing in the screw - plug and ending with the final fixation of the superstructures or the restorations themselves.



Structure of dental implant

Gel insert into implant

MATERIAL APPLICATION

BIOPLAST-DENT

FORMS OF ISSUE / CLINICAL INDICATIONS	BITS, CHIPS	PASTE	BLOCKS from spongy bone	PLATE	MEMBRANE
Alveolar regeneration well preservation/ preservation of the ridge (1 or 2 walls are absent)	+	+			+
Sinus-lifting open/ close	+	+		+	+
Peri-implantitis defects Degassing and fenestration (1 or 2 walls are absent)	+	+			+
Horizontal augmentation 2-wall defects/ ridge cleavage	+	+	+	+	+
Vertical augmentation	+	+	+	+	+
Intraosseous defect 2-walls defect/ 3-walls defect	+	+		+	+
Gum recession 1-2 degree	+	+			+

SURGICAL OSTEOPLASTIC MATERIALS

BIOMATERIALS FOR BONE REGENERATION

XENOGENIC

- BIOPLAST-DENT

ALLOPLASTIC

- KLIPDENT
- KLIPDENT-CEM
- ALVABEL-BINDER

BIOMEMBRANES FOR SOFT TISSUES REGENERATION

- BIOPLAST-DENT
- KLIPDENT
- ALVABEL-SPONGE

HEMOSTATIC

- **ALVANES** paste, powder, sponge
- **CAPRAMIN** liquid
- BANDAGE IODOFORM

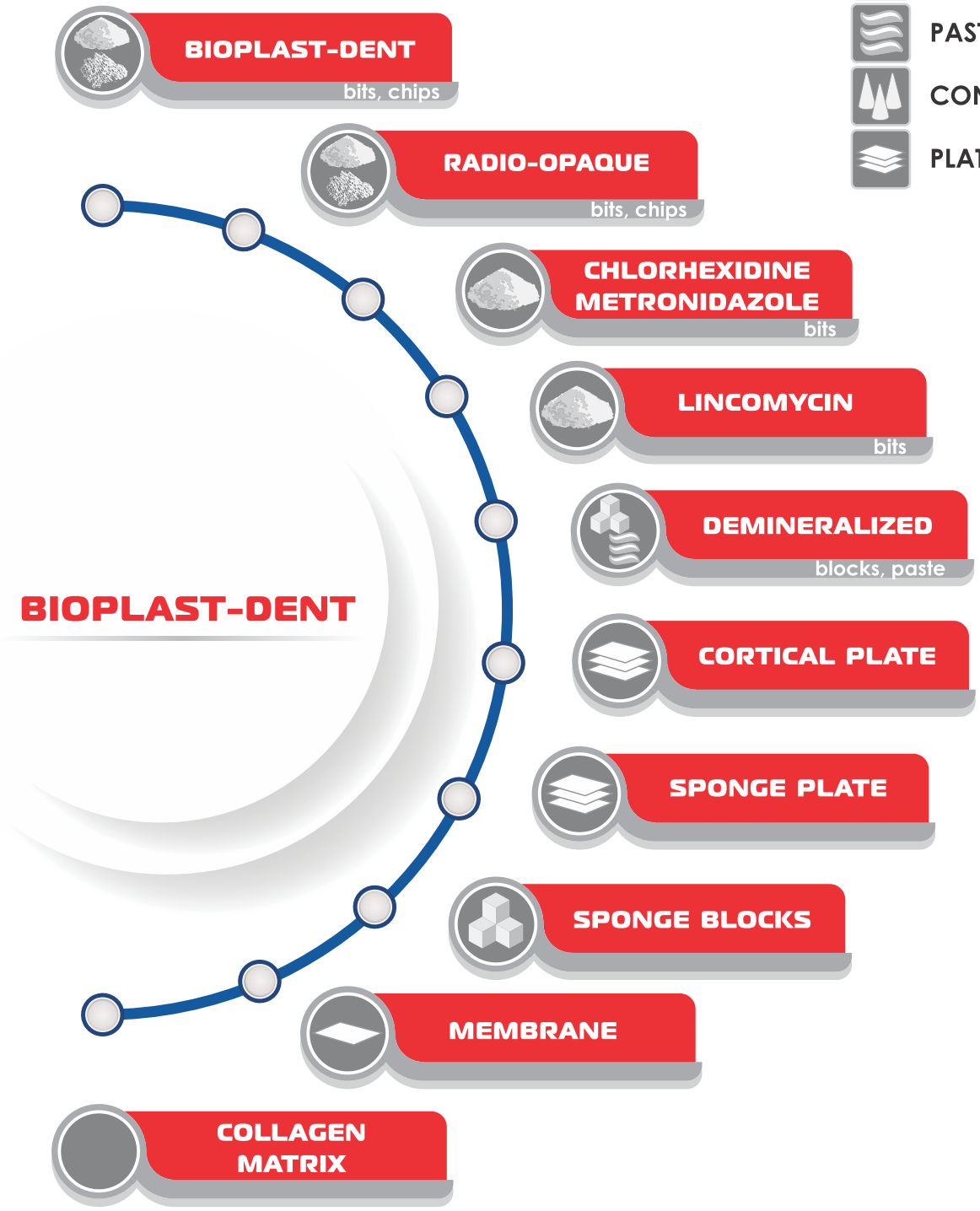
ATTENDANT

- ALVABEL-GEL
- KP-PLAST
- **GERMABAT** gel
- BELOWAX

FERMENTATIVE CHEMICAL PROCESSING

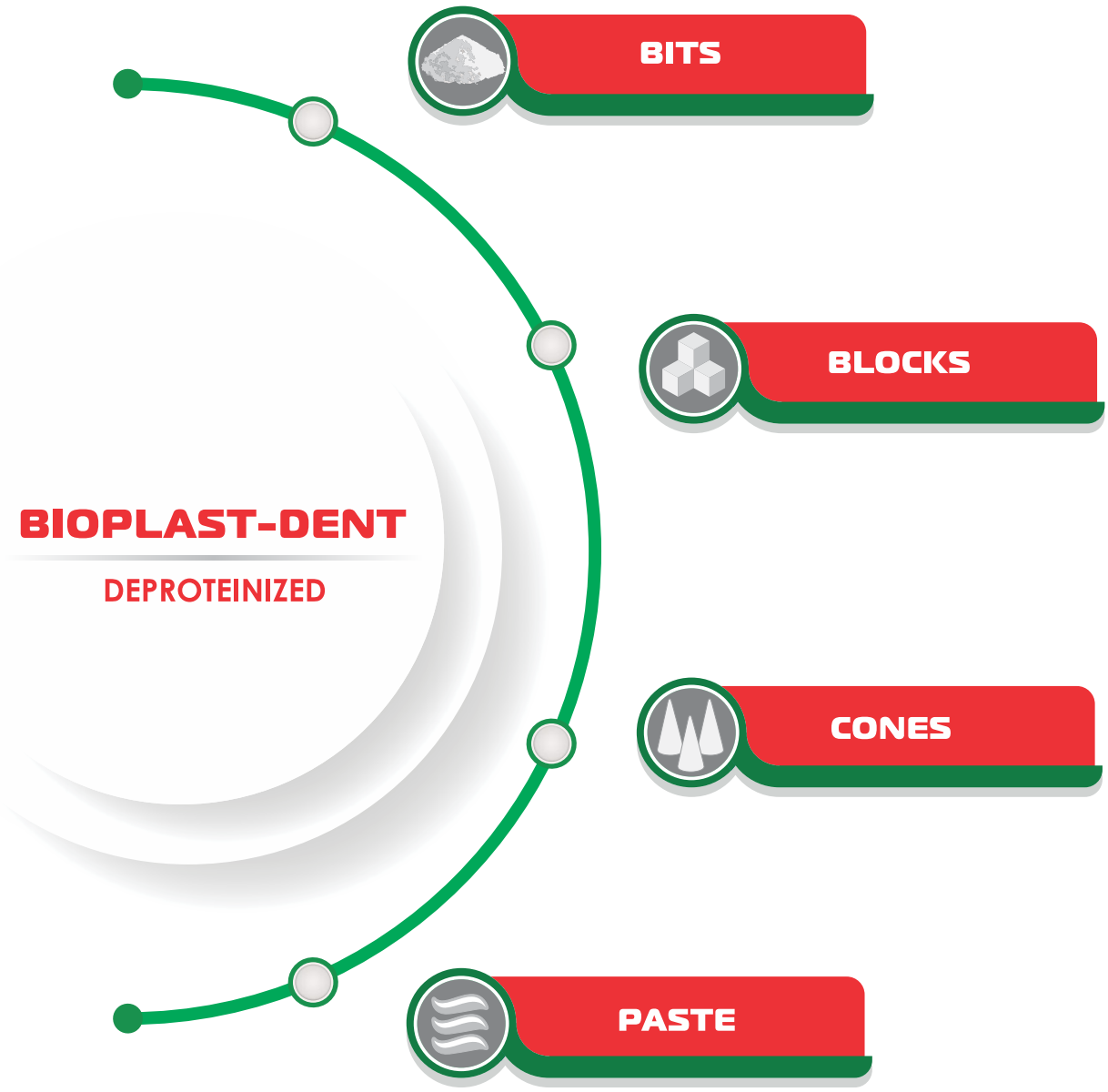
COMPOSITION:
75% - biological hydroxyapatite
25% - bone collagen

BITS
CHIPS
BLOCKS
PASTE
CONES
PLATE



LOW-TEMPERATURE THERMIC PROCESSING

COMPOSITION:
100% - highly-purified
biological hydroxyapatite



BIOPLAST-DENT

- BIOPLAST-DENT contains from 75% biological hydroxyapatite и 25% bone collagen with saved biomodal poure structure with absence of all low-molecular components of bone tissue

BIOPLAST-DENT

osteoplastic material based on highly purified bone matrix

- contains in its composition sulfated glycosaminoglycans that increase the concentration of blood platelets in the area of the operation, which facilitates a more rapid launch of the reactions, necessary for the formation of bone material;
- stimulate and speed up bone issues healing process;
- has prolonged resorption (6-8 months), high osteoinductance.

There is no immune reaction after material implantation into the bone defect.

Bits	200-1000 μm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
Chips	1000-5000 μm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
Blocks	5 x 5 x 5 mm	0,5 cm^3 (4 pcs); 1,0 cm^3; (8 pcs)
	5 x 5 x 10 mm	0,5 cm^3 (2 pcs); 1,0 cm^3; (1 pcs)
	5 x 10 x 30 mm	1,5 cm^3 (1 pcs)

BIOPLAST-DENT *radio-opaque*

osteoplastic material based on highly purified bone matrix containing radio-opaque HAP

- contains radio-opaque component;
- stimulate and speed up bone issues healing process;
- has prolonged resorption (6-8 months), high osteoinductance;

There is no immune reaction after material implantation into the bone defect.

Bits	200-1000 μm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
Chips	1000-5000 μm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3

BIOPLAST-DENT with *lyncomicine, chlorhexidine, and metronidazole*

osteoplastic material based on highly purified bone matrix for periodontology

- **lincomycin** is effective against gram-positive microorganisms;
- **chlorhexidine** is active against wide range of vegetative forms of gram-positive and gram-negative micro organisms, yeasts and lipophilic viruses;
- **metronidazole** has antiprotozoal and antibacterial effect.

Bits	0,5 cm^3; 1,0 cm^3; 1,5 cm^3

- The material BIOPLAST-DENT is obtained from the spongy (cortical) substance of bones from cattle by fermentative chemical treatment

BIOPLAST-DENT *cortical plate with perforation*

osteoplastic material from diaphyseal part of bone

- used to form defect walls to create a space for any bone material (bits, chips, granules) and to close bone's edge defect;
- the plate can be fixed to bone of the recipient by screw as additional support rod;
- the edges of plate partially decalcified to exclude injury of surrounding tissues. Material stays solid, saving its structure and volume, even in humidity condition;
- the plate ground imperceivably swells, which positively affects on adaptation to bone and surrounding tissues.

Has increased strength and a long period of resorption (9-12 months).

Plate cortical	2 x 8 x 20 mm

BIOPLAST-DENT *sponge plate*

osteoplastic material from highly purified porous bone matrix

- used to form defect walls to create a space for any bone material (bits, chips, granules) in aesthetically significant zone, and also with horizontal augmentation in 2-walls defect area;
- the plate becomes flexible after hydratation.

Sponge plate	15 x 15 x 0,3 mm 15 x 25 x 0,3 mm

BIOPLAST-DENT *sponge blocks*

osteoplastic material from highly purified xenogenic origin sponge bone matrix

- the material has strength, which allows to carry a load during fixation. The blocks easily modeled, drilled during implantant instalation. Recommended to fill the gap of bone defect between block and recipient bed of osseous borders;
- the blocks must be carefully kept in the hydrating solution in order to avoid air pollution;
- blocks of 5x5x5 mm allow without unnecessary modeling to fill a defect of a complex shape with the preservation of a natural system of biomodal pores than with the use of bone granules alone, which allows for a better flow of the regenerative process.

It has a pronounced osteoconductivity, after implantation it undergoes physiological replacement on bone tissue within 6-12 months.

Blocks	5 x 5 x 5 mm	0,5 cm^3 (4 pcs)
Blocks	5 x 5 x 10 mm	0,5 cm^3 (2 pcs)

BIOPLAST-DENT demineralized

osteoplastic material, with the necessary degree of demineralization for filling of defects of compound anatomic form.

It is a highly purified decalcified bone collagen and native growth factors with a preserved porous structure of the spongy bone:

- it has plasticity after aging in a hydrating solution;
- (2-3 minutes) easily change shape and are upgraded to the lost bone defect;
- the strength of demineralized spongy bone blocks is significantly less than that of standard blocks, but they are faster incorporated into metabolism and have proven themselves in areas with low regenerative potential;
- selective binding by bone collagen of blood platelets on the implanted material promotes an earlier launch of the cascade of bone formation processes.

Has a prolonged resorption (6-8 months), high osteoinductance.

Blocks	5 x 5 x 5 mm	0,5 cm^3 (4 pcs), 1,0 cm^3 (8 pcs)
Blocks	5 x 5 x 10 mm	0,5 cm^3 (2 pcs), 1,0 cm^3 (4 pcs)

BIOPLAST-DENT demineralized *(paste)*

osteoplastic material, with the necessary degree of demineralization for filling of defects of compound anatomic form.

It is a combination of highly purified decalcified bone collagen, native growth factors and an inert binder, which becomes more viscous when body temperature is reached, so it can form any form of bone defect (cyst in the root region), which reduces the risk of bone material shear during surgical manipulations.

The material can be used separately or in combination with other bone materials for augmentation or reconstruction of the alveolar ridge.

Paste	200-1000 µm	0,5 cm^3

CLINICAL CASES

1. Insert of material «Bioplast-Dent» paste into cavity directly from the syringe.

2. The bone cavity filled by material «Bioplast-Dent» paste.

3. Instalation of resorbable collagen membrane «Bioplast-Dent».

BIOPLAST-DENT *deproteinized*

osteoplastic material, containing biological sourced hydroxyapatite

It is a **100% highly purified biological hydroxyapatite** with a preserved biomodal porous system with complete absence of all components of the constituent bone tissue.

The material is obtained from the spongy (cortical) substance of bones of cattle using physical and low-temperature thermic processing.

- as result of deproteinization the material is devoid cellular elements and protein fractions;
- the ideal framework for the germination of blood vessels and the growth of cells from the bone bed;
- has the optimal adhesion of stromal stem cells to the surface of the substrate;
- blocks are easily modeled and used in clinical situations where screws are not required;
- recommended to fill the gap of bone defect between block and recipient bed of osseous borders;
- the blocks must be carefully kept in the hydrating solution in order to avoid air pollution.

Material is completely resorbed in the interval of 6 to 8 months.

Bits	200-1000 μm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3	
Blocks	5 x 5 x 5 mm	0,5 cm^3; (4 pcs)	
	5 x 5 x 10 mm	0,5 cm^3; (2 pcs)	
Cones	d-5; h-15 mm	8 pcs	} 10 pcs
	d-7; h-17 mm	2 pcs	

BIOPLAST-DENT *deproteinized (paste)*

osteoplastoic material containing biologically sourced hydroxyapatite

It is a combination of 100% highly purified biological hydroxyapatite and binder, which becomes more viscous at body temperature, which allows you to "copy" any form of bone defect, thereby reducing the risk of shearing implant material during surgical manipulations.

Paste	200-1000 μm	0,5 cm^3
Paste	< 300 μm	1,0 cm^3

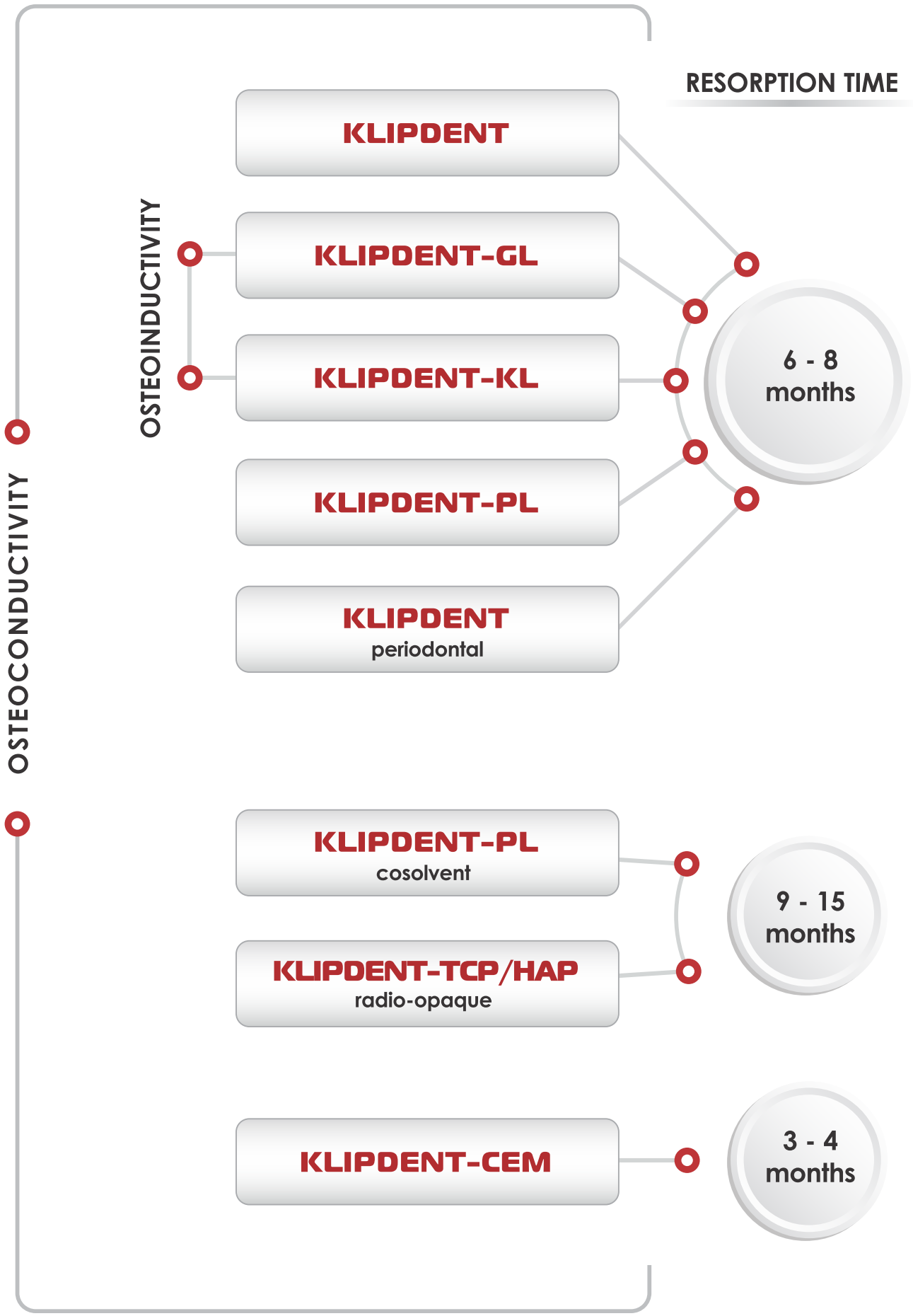
4. Suturation.

5. Gum status within 2 weeks after operation.

6. Gum status within 4 months after operation.

KLIPDENT

granules based on pure phase β - tricalcium phosphate	Klipdent
granules based on pure phase β - tricalcium phosphate (60%) hydroxyapatite (40%)	Klipdent TCP/HAP
granules β - tricalcium phosphate in hyaluronic matrix	Klipdent-GL
granules β – tricalcium phosphate in collagen matrix	Klipdent-KL
granules β - tricalcium phosphate in polymer matrix	Klipdent-PL
granules β - tricalcium phosphate in в polylactide glycoside coat and cosolvent	Klipdent-PL cosolvent
$Ca(H_2PO_4)_2 \cdot H_2O + \beta\text{-}Ca_3(PO_4)_3 + 7H_2O \rightarrow 4CaHPO_4 \cdot 2H_2O$ (brushite)	Klipdent-CEM
calcium-phosphate granules with with prolonged release of active agents	Klipdent periodontal
plate based on type II collagen for direct bone regeneration	Klipdent-MC
based on purified serum albumin	Klipdent biological glue
based on hyaluronic acid	Klipdent-gel


RESORPTION TIME
OSTEOINDUCTIVITY
OSTEOCONDUCTIVITY
KLIPDENT
KLIPDENT-GL
KLIPDENT-KL
KLIPDENT-PL
KLIPDENT
periodontal
6 - 8
months
KLIPDENT-PL
cosolvent
KLIPDENT-TCP/HAP
radio-opaque
9 - 15
months
KLIPDENT-CEM
3 - 4
months

KLIPDENT®— TCP/HAP *radio-opaque*

resorbable granules on the basis of β-tricalcium phosphate (60%) and hydroxyappatite (40%)

- contains radio-opaque component;
- possess prolonged resorption, high osteoinductivity;
- stimulates and accelerates process of regeneration of bone tissues;
- after implanting of the material into bone defect the immune reaction is absent.

Granules	100-500 µm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
	100-1000 µm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
	1000-2000 µm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
Blocks	5 x 5 x 5 mm	0,5 cm^3 (4 pcs);
	5 x 5 x 10 mm	0,5 cm^3 (2 pcs);
Cones	d-5; h-15 mm	8 pcs } 10 pcs
	d-7; h-17 mm	2 pcs

KLIPDENT®— GL, KL, PL

resorbable granules of β-tricalcium phosphate

produced in the form of root bone grafts and granules on the basis:

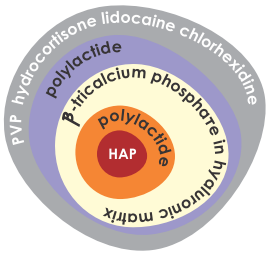
- β – tricalciumphosphate in hyaluronic matrix - **«Klipdent» GL;**
- β – tricalciumphosphate in collagen matrix - **«Klipdent» KL;**
- β – tricalciumphosphate in polyactideglycole matrix - **«Klipdent» PL.**

Granules	100-500 µm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
	500-1000 µm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3
	1000-2000 µm	0,5 cm^3; 1,0 cm^3; 1,5 cm^3

KLIPDENT® periodontal

resorbable calcium-phosphate multilayer granules with prolonged release of active agents

Multifactorial influence of the material on the processes of activation of reparative osteogenesis:



- analgetic, antiphlogistic, antibacterial action (1-5 days);
- biodegradable polymer prolongs flow conditions reparative osteogenesis (5-14 days);
- promotes reparations of lost bone tissues.

All material resorbe from 6 till 8 months.

Granules	200-1000 µm	1,0 cm^3

KLIPDENT®— CEM

calcium-containing bioresorbable material based on brushite

- provides tight contact between bone and dental implant surface;
- effectively substitutes traditional combination «granulated material+membrane».

Liquid	1 ml
Powder	2 g

KLIPDENT®— PL cosolvent

resorbable granules of β-tricalciumphosphate incapsulated in polylactideglycoide shell and cosolvent

- form of production allows to eliminate additional manipulations;
- allows to preserve maximal sterility;
- the material rapidly hardens after injection into bone defect.

Granules	500-1000 µm	0,2 cm^3; 0,35 cm^3; 0,5 cm^3
Cosolvent		0,1 cm^3; 0,18 cm^3; 0,25 cm^3

1. Granules in syringe moisten by cosolvent from which result they bonded between each other.

2. Reach full moiten of granules moving piston.

3. Remove excess cosolvent.

4. When mixed granules with cosolvent they are bonded between each other. Material becomes plastic and comfort for insert to the bone defect area directly form syringe.

5. Well done material enter into the bone defect area directly from syringe.

BIOPLAST-DENT *membrane*

double-layer resorbable plate on the basis of collagen of type I and type II (derma)

Applied as mechanical barrier, preventing migration of soft tissues into bone defect at surgical intervention.

- streight, elastic, double-layer, interfiber highlypurified structure;
- does not contain additional cross-linking and chemical additives;
- easily adapts to the profile of the bone wall;
- it is recommended when performing bone grafting procedures to facilitate the formation of soft tissues.

Membrane*	15 x 15 x 0,3 mm 15 x 25 x 0,3 mm 25 x 25 x 0,3 mm 30 x 40 x 0,3 mm

BIOPLAST-DENT *collagen matrix*

plate on the basis of porcine collagen I and III type for regeneration of soft tissues

- hydrophilous material, which easily close when it necessary. A dense compact structure protects the defect area from infections and allows the use of the material with open healing in some clinical situations;
- plate based on porcine collagen (type 1 and 3) for soft tissues regeneration. Is the ideal framework for the restoration of the gum or mucous membrane of the oral cavity;
- it is recommended to use as an alternative to soft tissue replacement without sampling your own mucous membrane.

Membrane*	10 x 30 x 0,6 mm 15 x 20 x 0,6 mm 20 x 30 x 0,6 mm
Circles	d-8, h-0,6 mm d-12, h-0,6 mm

KLIPDENT® — MC

resorbed plate on the basis of II-type collagen

Used as mechanical barrier, preventing migration of soft tissues into bone defect at surgical intervention.

- the inter-fiber structure of high-purity collagen is restored due to the formation of cross-links;
- has good adhesion towards the bone and soft tissues.

Membrane*	15 x 15 x 0,2 mm 15 x 25 x 0,2 mm 25 x 25 x 0,2 mm 30 x 40 x 0,2 mm

* According to the wish of the customer the production of other sizes is possible

ALVABEL — *binder*

synthetic osteoconductive resorbable material

- for use as a binding filler for bone material particles in order to prevent their migration and create a composite augmentation material;
- filling holes after tooth extraction;
- the creation of a barrier for direct tissue regeneration.

Plastic paste, obtained by mixing granular powder and saline, hardens for 2-5 minutes.

The material can be combined with antibiotics and growth factors. A granular powder consisting of pure calcium sulphate does not affect the regeneration process and is completely resorbed, replaced by bone tissue at a rate equal to bone formation rate

After three months, the bone is ready for implant placement.

Liquid	1 ml
Powder	0,5 cm^3

ALVABEL — *sponge*

highly effective resorbable sponge

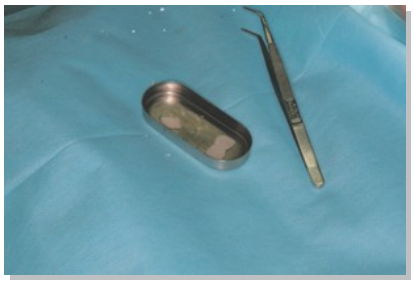
The hemostatic effect of collagen is based on the adhesion of platelets to collagen fibers, which leads to platelet aggregation and the release of coagulation factors due to degranulation, which leads to hemostasis.

- for the conservation of the hole or the closure of the recession;
- closing the surgical wound with by a collagen sponge protects the bone graft, which contributes to the formation of a blood clot and healing of the wound;
- has good tissue tolerance (non-immune, resorbed and supporting healing process).

Sponge	10 x 8 x 8 mm	10 pcs

CLINICAL CASES

1. Rehydration of the resorbed collagen membrane «Bioplast-Denb» in sterile saline.



2. Making the collagen membrane the right shape.

3. Installation of resorbable collagen membrane.

4. Suturation.

5. Gum status in 19 days after operation.

KLIPDENT® — *biological glue*

based on purified serum albumin

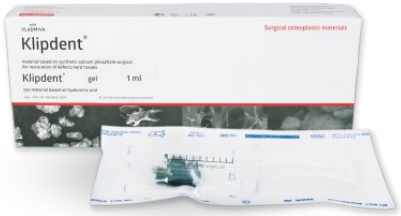
Ready-to-use surgical glue. It consists of an aqueous solution of albumin and glutaraldehyde as a cross-linking agent.

- for sealing and strengthening surgical sutures, preventing the flow of biological fluids, and also for gluing the tissues together;
- the polymerization process starts during first 20-30 seconds after mixing and reaches its maximum strength after 2 minutes.

Gel	2 ml

KLIPDENT® — *gel*

based on hyaluronic acid



- for reliable protection and accelerated wound healing after surgical intervention;
- to accelerate bone regeneration, reduce scar formation in aesthetically important areas and accelerate wound clamps after implantation;
- to support the regeneration process after surgical treatment of periodontal disease, treatment of gingivitis, marginal superficial and deep periodontitis.

Gel	1 ml

BIOPLAST-DENT *gel*

based on chondroitin sulfate and chlorhexidine

- for the removal of edema and inflammation of the oral mucosa before and after surgical manipulation;
- to prevent exacerbations and maintain the condition of periodontal tissues;
- for rapid relief of exacerbation in periodontitis, gingivitis.

Promotes localization of inflammation.

Improves dentin and metabolism in odontoblast.

Gel	3 ml / 10 ml

ALVABEL — *gel*

based on xanthan gum and chlorhexidine

- for the treatment of periodontal pockets and reimplants after mechanical removal of deposits;
- due to its adhesive properties, the gel acts as a sterile blocking remedy with prolonged release of the antiseptic, promoting the healing process;
- the mesh structure of the gel forms a guaranteed barrier for a period of not less than 15 days, limiting the repeated colonization of microorganisms in the dentogingival pockets.

Gel	1 ml

KP-PLAST — *plates (chips)*

self-absorbable plates based on modified gelatin and chlorhexidine

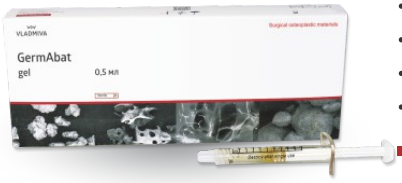
- plates in the form of chips are intended for use in complex therapy in the treatment of inflammatory periodontal diseases, in particular gingivitis and periodontitis, and also in the postoperative period with surgical intervention;
- the chip does not require its extraction from the periodontal pocket, resorbed within 10 days after installation;
- the depth of the periodontal pocket in the appointment of treatment should be at least 5 mm.

The use of «KP-Plast» plates allows prolonging the necessary therapeutic concentration of the antimicrobial substance in the affected periodontal tissues.

Plate	5 x 4 mm	5/10/20 pcs

GERMABAT

sealant for dental implants based on a modified silicone matrix and thymol



- to seal the gaps of the implants in order to avoid peri-implantitis;
- it reliably seals all kinds of two-component implants;
- prevents the penetration of microbes and bacteria into the implant;
- eliminating the main cause of peri-implantitis.

Gel	0,5 ml

BELOWAX — *surgery wax*

non-resorbable plate based on a sterile wax composition

- to stop bleeding from dissected drilled bone tissue or bone fragments by mechanically filling the bone channels containing bleeding capillaries, which leads to local hemostasis in the bone tissues, creating a mechanical barrier (tamponade).

It is used in dentistry, maxillofacial, cardiovascular, thoracic surgery, and also in traumatology and orthopedics.

It is not recommended to use surgical wax in clinical situations where fast regeneration and fusion of bone tissues is necessary.

Plate	2,5 g

ALVANES — *sponge* hemostatic antiseptic collagen

- **with iodoform**
- **with lincomycin**
- **with chlorhexidine and metronidazole**

Contains frozen-dried collagen, which was admixed by:

- hemostatic components;
- antiseptic components: iodoform, eugenol, thymol, lidocaine.

Sponge is resorbed in a tooth hole during several days.

Sponge	30 pcs

ALVANES — *paste antiseptic*

pharmaceutical for alveols

- presence of propolis in the material provides anti-inflammatory, wound-healing and analgesic effect;
- forms barrier, preventing bacterial infection of bone tissue of alveolar hole.

Paste	3 g / 10 g

ALVANES — *paste hemostatic*

styptic absorbable preparation for alveols

- rapidly halts bleeding;
- anesthetize;
- performs antiseptic effect.

Paste	20 g

ALVANES — *powder*

fine antiseptic powder

- easily sprays, covering bleeding surface of mucosa and halts capillary bleeding;
- compatible with antibiotics and antiseptics.

Powder	7g

CAPRAMIN — *liquid*

hemostatic remedy at capillary bleeding from gingiva

- possess bactericide properties;
- doesn't cause changing of color of teeth tissues;
- easily washed away by a stream of water.

Liquid	30 ml

BANDAGE IODOFORM

gauze tamponade, 100% cotton, with woven edge

- for post-extraction holes treatment;
- and sinuses of maxilla disinfection;
- has a mild anesthetic, antiseptic action and effective adsorption;
- interacting with wound exudate, iodoform releases free iodine, which provides a pronounced bactericidal effect.

Bandage	2,5 m x 10 mm 2,5 m x 20 mm

RAMFJORD FLAP OPERATION
using osteoplastic material Klipdent - GL and antiseptic paste Parasept

1. Initial status.

2. Separation of the periosteal flap, open curettage and treatment of the cavity with antiseptic means.

3. Inputting of osteoplastic material «Klipdent» - GL.

4. Suturation.

5. The application of the healing bandage «Paraseph» on the wound surface.

6. Gum status in 3 weeks after operation.

Source: with the permission of the dentist Kuprin V.P.

OPEN SINUS-LIFTING
using osteoplastic material Bioplast-Dent bits and enriched with platelets of blood plasma

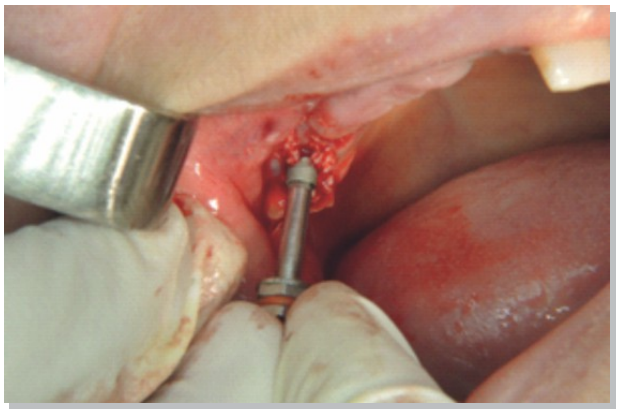
1. X-ray before the operation.

2. X-ray in 6 months afer operation.

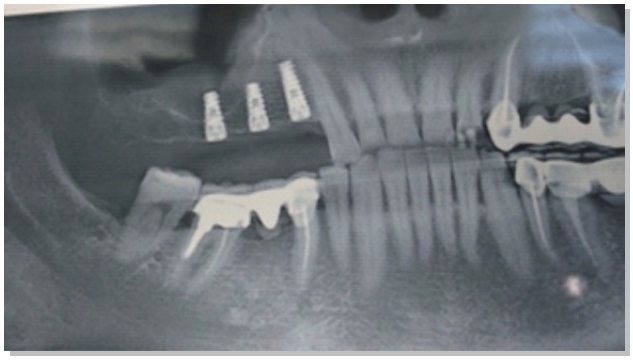
Source: with the permission of the dentist Tolmachev L.B.

CLOSED SINUS-LIFTING
with one-stage sanation of the oral cavity and installation of implants

1. X-ray before the operation.



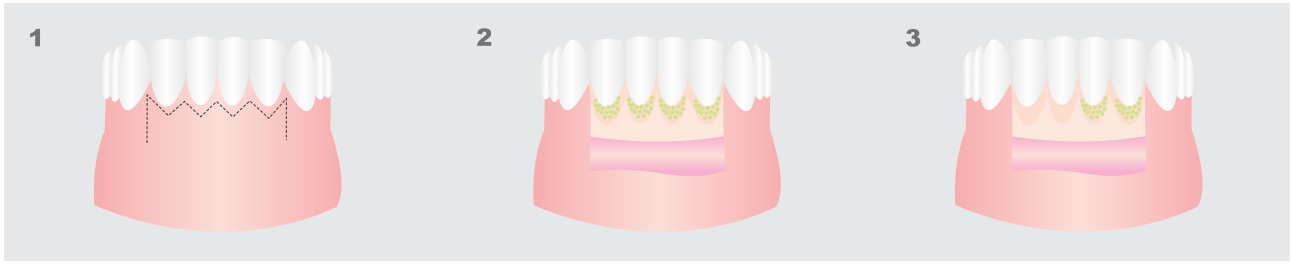
2. Inputting of the osteoplastic material «Klipdent» - GL with one-stage sanation of the oral cavity.



5. X-ray in 8 month after operation.

Source: with the permission of the dentist Musienko A.I.

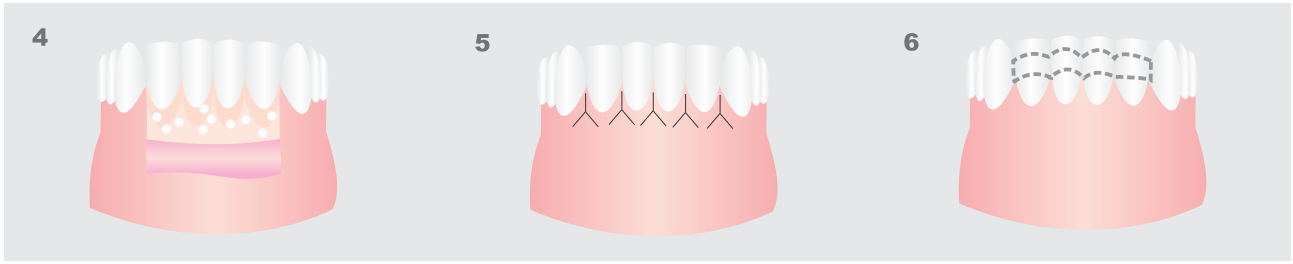
surgical periodontology



Incision of gingiva

Detachment of periosteal flap

Exposed curettage

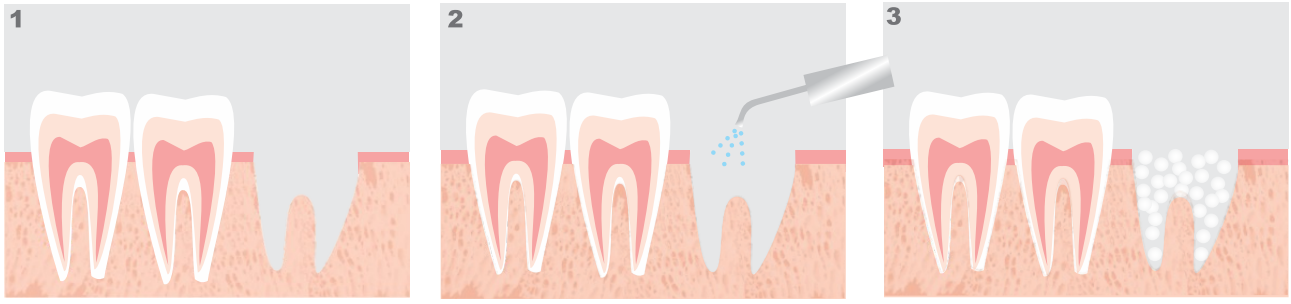


«Bioplast-Dent» bits with lycomicin is injected into periodontal pockets or chlorhexidine and metronidazole

Periosteal flap is put on its place, stitches are put

Teeth splinting by «Armosplint» set

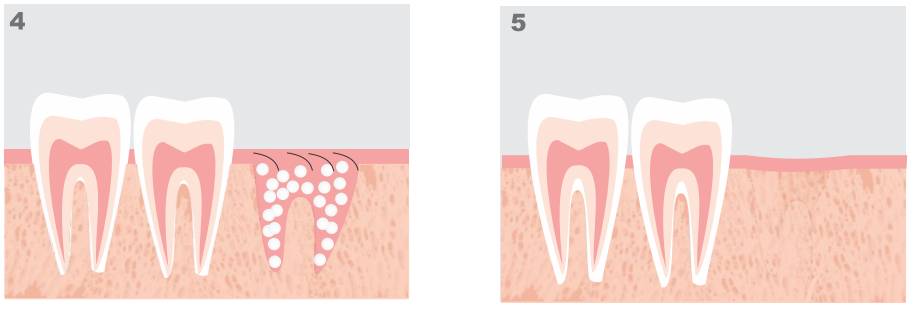
tooth removal



Tooth removal

Washing by antiseptic 2% solution «BelSol №2»

Filling of the hole of removed tooth with «Bioplast-Dent» powder or «Klipdent» granules

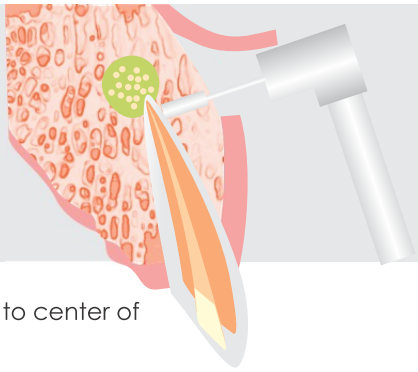


Fixing of gingival flap with seams

Formation of new bone tissue

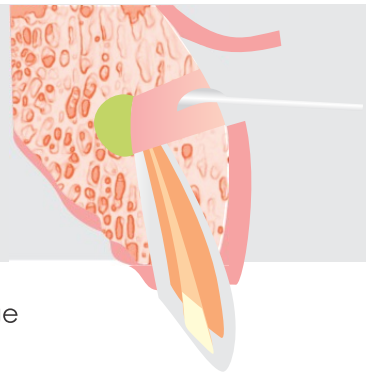
resection of root top

1



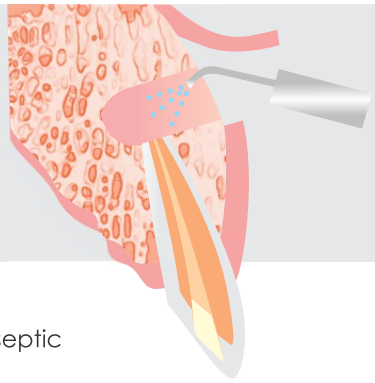
Providing access to center of inflammation

2



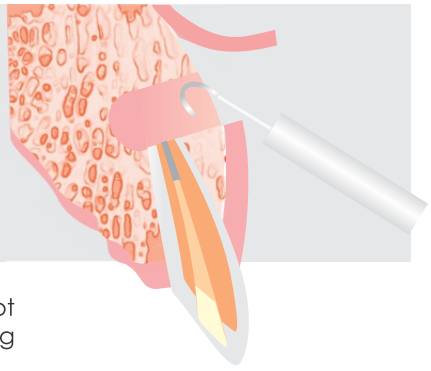
Curettage

3



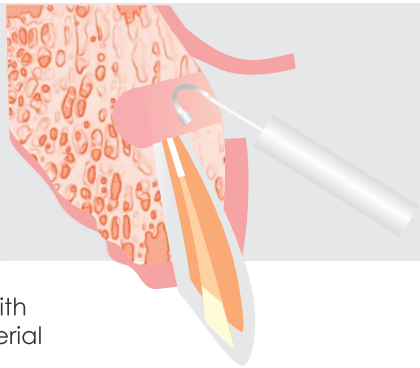
Washing with «Belsol №2» antiseptic

4



Formation of depot for retrograde filling

5



Filling of depot with «Trioxydent» material

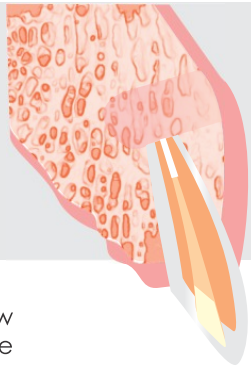
6

Filling of defect «Bioplast-Dent» bits or «Klipdent» granules

7

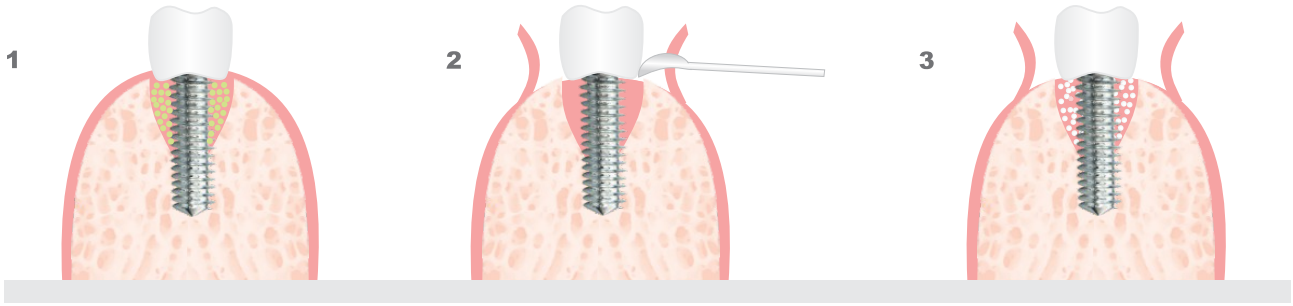
Suturation

8



Formation of new bone tissue

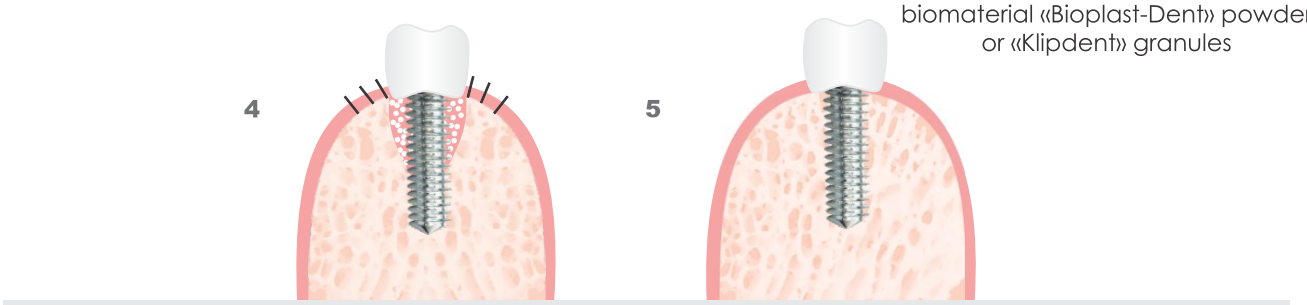
periimplantitis



Bone resorption around implant

Curettage

Filling of bone defect with biomaterial «Bioplast-Dent» powder or «Klipdent» granules

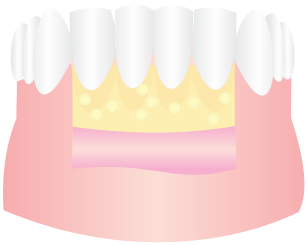


Suturation

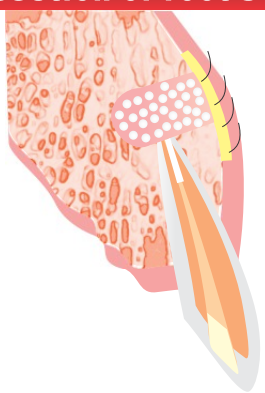
Formation of new bone tissue

SCHEME OF APPLICATION OF BIOMEMBRANES

periodontology

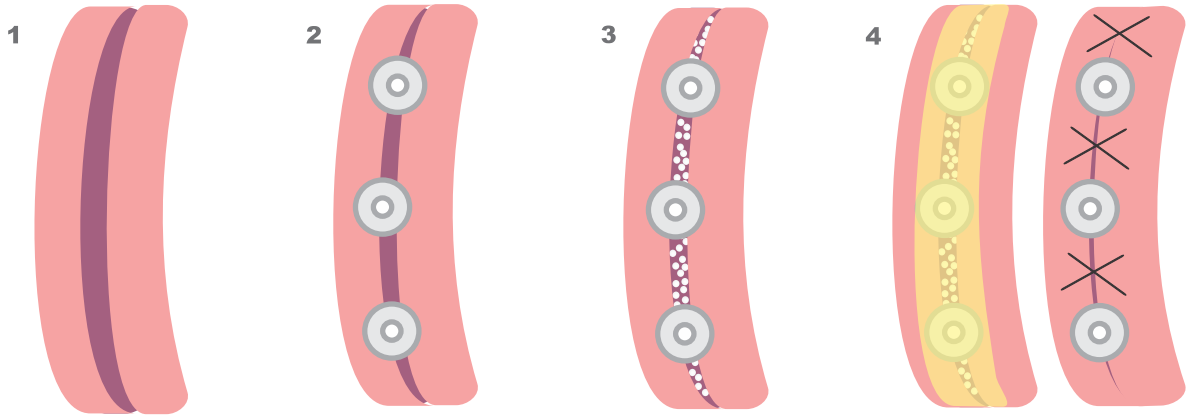


resection of root's top



tooth removal

augmentation



Extention of alveolar bone

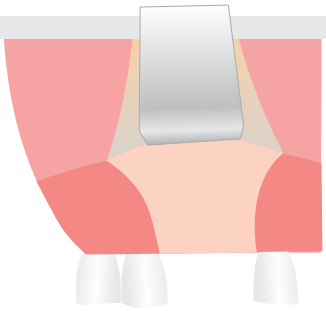
Installation of implants

Filling with biomaterial

Imposition of membrane and suturing

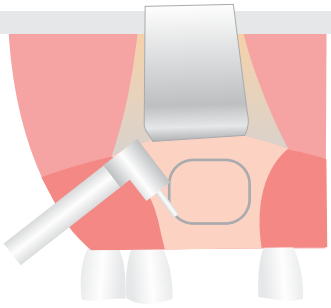
sinuslifting

1



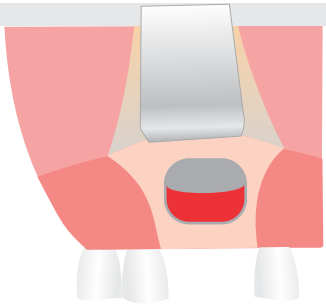
Subantral augmentation.
Incision and preparation for surgery

2



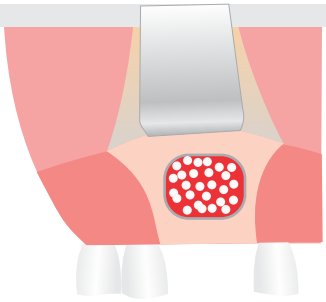
Formation of frame in
bone tissue

3



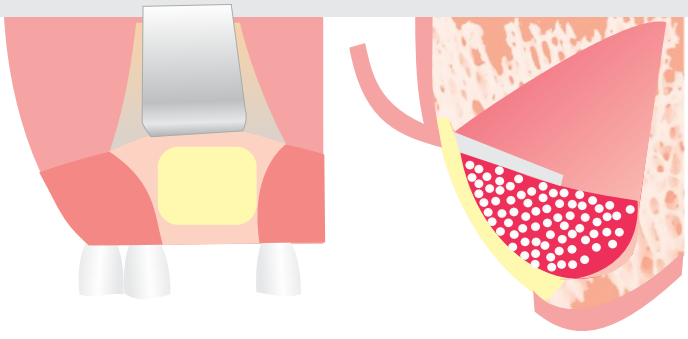
The formed bone frame
is invaginated into sinus cavity

4



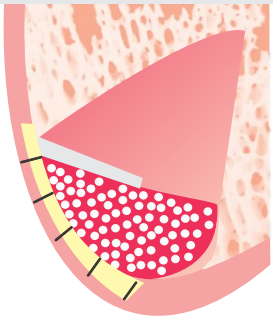
Filling of sinus by biomaterial
«Bioplast-Dent» powder
or «Klipdent» granules

5



Imposition of membrane «Bioplast-Dent» or membrane «Klipdent» MC

6



Suturation

7

Formation of bone tissue

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