



# 神外惠中

颅颌面内固定系统-神经外科系列

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# 公司简介

## COMPANY PROFILE

深圳市沃尔德外科医疗器械技术有限公司创建于2001年，是一家集产学研一体化的国家级高新技术企业。公司一直与国内多家著名高校合作，全情致力于人体组织修复和重建再生、医用高分子、组织工程材料的研发和生产，产品广泛应用于神经外科、口腔颌面外科、普外科、心胸外科、骨科及手足外科。成立二十年来，公司始终把安全优质、开拓创新、持续发展作为经营宗旨，研发生产了十大系列产品；通过了ISO13485系列认证及CE认证；获得了16项自主知识产权专利；建立了三百多家优秀的合作伙伴关系，销售网络遍及海内外；使生物桥®产品为全球近百万位患者提供了更好地解决方案；赢得了患者、医生、客户、员工及社会的认可和赞誉。

在未来的发展中，公司依然会本着专业、专注、负责的态度，立足中国市场，深入开拓国际市场，努力为更多的患者提供更加优质的产品与服务。

Shenzhen World Surgery Medical Device Technology Co., Ltd was established in 2001, which is a high-tech enterprise with production, academy and research together. The company successively cooperates with many famous domestic universities and dedicates to development and production of human tissue repair&reconstruction, medical high polymers and tissue project material. Our products are applied to Neurosurgery, Oral and maxillofacial surgery, General surgery, Cardio-Thoracic Surgery, Orthopaedics and Hand-foot surgery.

Since its establishment ten years ago, the company has always regarded safety, high-quality, innovation and sustainable development as its business objectives. It has developed and produced ten series of products; passed ISO13485 certification and CE certification; obtained 16 independent intellectual property rights patents; established more than 300 Excellent partnerships, sales network spreaded all over the world. The 生物桥® products provide the best solution for more than 100,000 patients worldwide; won the recognition and praise of patients, doctors, customers, employees and society.

In the future development, the company will be always with professional dedicated and responsible attitude to be based on China market and exploring overseas market and do the best to provide better products&service for more patients.



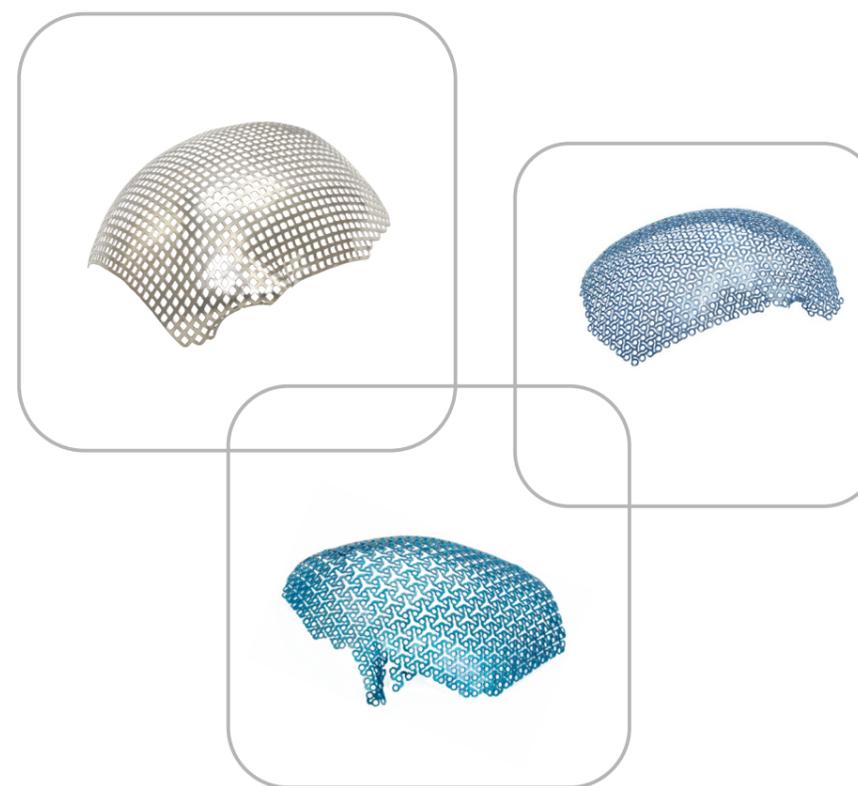
# 目录

## CONTENTS

一、钛网、螺钉系统	Titanium mesh, screw system	02
1、钛网分类及功能	Classification and function of Titanium mesh	04
2、钛网配套螺钉	Matching screws of titanium mesh	06
3、工具系统	Instrument system	07
二、接骨板、螺钉系统	Bone plate, screw system	09
1、专用接骨板	Special bone plate	09
2、普通接骨板	General bone plate	16
3、接骨板配套螺钉	Matching screws of bone plate	17
4、工具消毒盒	Disinfection box for instruments	28
三、医学数字化设计制造	Medical digital design & manufacture	29
1、中心介绍	Center Introduction	29
2、业务范围、优势特点	Business Scope&Advantages	30
3、制造流程、注意事项	Manufacturing process&Precautions	31
4、生长滑动槽钛网	Titanium mesh for the sliding groove at growth	32

# 钛网、螺钉系统

## Titanium mesh, screw system



包括二维和三维各种规格型号的网板，网板选用医用纯钛，螺钉选用钛合金材料制成。为患者及临床医师提供多样性、个体化的解决方案。（产品的型号规格以注册证为准）。

The system include 2D mesh plate,3D mesh plate with various specifications which provide multriple and individual solutions.

# 钛网、螺钉系统

## Titanium mesh, screw system

### 二维钛网 2D titanium mesh

规格 (mmxmm) Specification (mmxmm)	型号 Type	形状 Shape	厚度mm Thickness (mm)	图示 Diagram	应用 Application
60×80					
70×90					
80×100					
80×120					
90×120					
100×100					
100×120			0.6		
120×120	FKMP I II* SHMP I (0105型) <sup>+</sup>	方孔型 Square hole type			
120×130					
120×150					
130×140					
150×150					
160×160					
180×180					
200×200					

\* 注册证号:国械注准20153461745

+ 注册证号:国械注准20153461691

### 钛网的分类及功能

#### Classification and function of Titanium mesh

### 二维钛网 2D titanium mesh

#### 特点优势

a) 二维钛网刚性较强, 强度高, 成型后不变形, 不反弹, 能充分保护病人安全;

#### Advantages

a) 2D titanium mesh with high strength doesn't deform after modeling and fully protected the safety of patients

#### 适应症

a) 二维钛网适用于顶部、额部、颞部、枕部等强度要求高, 弧度要求小, 结构相对简单的部位使用。

b) 厚度0.6mm的方孔板, 硬度高、强度大, 适宜大面积颅骨缺损的修复。

#### Indications

a) The two-dimensional titanium mesh is suitable for use in parts such as the parietal bone, frontal bone, temporal bone, and occipital bone, which have high strength requirements, small arc requirements, and relatively simple structure.

b) Square hole mesh with thickness 0.6mm can offer the high strength which is good option for repairing of large area fracture in skull.

# 钛网、螺钉系统

## Titanium mesh, screw system

### 三维钛网 3D titanium mesh

规格 (mmxmm) Specification (mmxmm)	型号 Type	形状 Shape	厚度mm Thickness (mm)	图示 Diagram	应用 Application
60×80	RZMP I II* HBMP I (0101型) <sup>+</sup>	 人字型 “人”type	0.6		
70×90					
80×100					
80×120					
90×120					
100×100					
100×120	JXMP I II* RTMP I (0102型) <sup>+</sup>	 矩型 Rectangle type	0.6		
120×120					
120×130					
120×150					
130×140					
150×150					
160×160					
180×180					
200×200					

\* 注册证号: 国械注准20153461745

+ 注册证号: 国械注准20153461691

#### 特点优势

a) 三维钛网韧性较强, 刚柔相济, 易于塑形, 塑形效果极佳。

#### Advantages

a) 3D titanium mesh with preferable flexibility is easy to model, and the shape after modeling is perfect.

#### 适应症

- a) 三维设计更易塑型, 塑型效果更佳, 适宜术前、术中手工塑型或数字化成型。
- b) 在弧度要求高, 曲面复杂的情况下更具优势, 适用于颅面各部位缺损修复。
- c) 0.6mm厚矩型网适用于颅骨粉碎性骨折的覆盖及包埋固定; 也适用于眶部的重建固定。

#### Indications

- a) The 3D titanium mesh is easier to model and the shape after modeling is better, and it fit for preoperative, intraoperative and digital modeling.
- b) The 3D titanium mesh is applicable to the reconstruction for different parts of skull with big radian.
- c) Mesh of rectangle type with thickness 0.6mm is applicable to cover and fix for thrypsis of skull and also reconstruct of basal orbital part.

#### 钛网配套螺钉

#### 特点优势

- a) 螺钉型号规格齐全, 为小儿及骨质疏松患者提供特殊型号产品;
- b) 螺钉集自锥、自攻、自钻于一体, 自扣十字槽, 持钉稳定, 方便术中操作, 不易断钉。

#### Advantages

- a) Screw type have complete a trail of different specifications, and also can provide special specification products for children and osteoporosis patients.
- b) Screws with self-pricking, self-tapping and self-drilling together, cruciform slot head, steady screw holding, easy to operate, and not easy to be broken.

#### 适应症

Apply to fixation of titanium mesh and bone plate.  
适用于配套钛网和接骨板的固定

#### 自攻自钻螺钉 钛网

规格 (mm) Specification	老型号 Type	型号 Type	8位编码 8 digit number	12位编码 12 digit number	配套使用钛网
Φ2.0*4.0	HA	CSD-01	00E20040	122212120040	三维钛网
Φ2.0*5.0	HA	CSD-01	00E20050	122212120050	三维钛网
Φ2.0*5.5	HA	CSD-01	00E20055	122212120055	三维钛网
Φ2.0*6.0	HA	CSD-01	00E20060	122212120060	三维钛网
Φ2.0*5.5	HA	CSD-01	02E20055 (大头钉)	122242120055 (大头钉)	二维钛网



# 钛网、螺钉系统 Titanium mesh, screw system

## 工具系统 Instrument system

### 储藏灭菌系列 For store and sterilization



钛网消毒盒  
Disinfection box for titanium mesh  
编号(S/N) : WDTO01020



高分子持钉盒  
Macromolecular Screw-holding Box  
编号(S/N) : WDTO00006 (白)

### 骨科用螺丝刀系列 Screwdriver head

**生物桥接口:** 采用卡扣式设计, 手柄接口可滑动, 拆装自如, 易于术后维护,

**AO接口:** 国际通用, 应用便捷, 操作简单。

**Bio-bridge interface:** Design with first-card interface principle, handle interface can be unloaded and loaded easily, and easy to be maintained after operation.

**AO interface:** International use, convenient application and simple operation.

### 螺丝刀杆 Screwdriver series

接口分类 Interface classification	螺钉系统 screw system	适用编号 S/N	
生物桥接口 Bio-bridge interface	1.5mm系统 1.5mm system	WDTO00298	
	2.0mm系统 2.0mm system	WDTO00300	
AO接口 AO interface	1.5mm系统 1.5mm system	WDTO00294	
	2.0mm系统 2.0mm system	WDTO00296	

### 螺丝刀手柄 Screwdriver handle

接口分类 Interface classification	编号 S/N	
	WDTO00042	
生物桥接口 Bio-bridge interface	WDTO00360	
	WDTO00302	
AO接口 AO interface	WDTO00045	
	WDTO00043	
	WDTO00049	

### 塑型工具系列 Modeling instruments for titanium mesh

- |  |  |
|--|--|
| 1) 塑型尺: 编号 WDTO01012<br>编号 WDTO01013<br>编号 WDTO01015 | 1) Shaping scale: (S/N)WDTO01012<br>(S/N)WDTO01013<br>(S/N)WDTO01015 |
| 2) 塑型槽: 编号 WDTO01007                                 | 2) Shaping groove: (S/N)WDTO01007                                    |
| 3) 钛网剪: 编号 WDTO01019<br>编号 WDTO01021                 | 3) Titanium mesh scissors: (S/N)WDTO01019<br>(S/N)WDTO01021          |
| 4) 塑型锤: 编号 WDTO01022                                 | 4) Shaping hammer: (S/N)WDTO01022                                    |
| 5) 修边锉: 编号 WDTO01023                                 | 5) Trimming file: (S/N)WDTO01023                                     |
| 6) 塑型钳: 编号 WDTO01006                                 | 6) Shaping pliers: (S/N)WDTO01006                                    |



# 接骨板、螺钉系统

## Bone plate, screw system

本系统根据颅骨不同病因的手术特点, 制造出适合与满足所有颅骨修复、矫形用的普通及特殊专用钛板及螺钉;

钛板采用纯钛, 螺钉采用钛合金制造. (产品的型号规格以注册证为准)

According to the operation characteristics of different diseases about skull, the system make suitable orthopaedic special titanium plate composed of Titanium and screws composed of titanium alloys.

### 专用接骨板 Special bone plates

#### 1.5mm系统 1.5mm system



**乳突板:** 建议应用于三叉神经瘤及三叉神经痛等乳突入路手术的修补。

**Mastoid plate:** It's recommended to be applied to the repair of mastoid approach such as triple neuroma and trigeminal neuralgia.

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
UNLS04 U形接骨板	0202040206	221102040602	42	
UNLS04 U形接骨板	0202040306	221102040603	47	
UNLS04 U形接骨板	0202040406	221102040604	52	
UNLS04 U形接骨板	0202040506	221102040605	45	
UNLS04 U形接骨板	0202040606	221102040606	32	
UNLS04 U形接骨板	0202040706	221102040607	26	
UNLS04 U形接骨板	0202040806	221102040608	23	



**颞孔板:** 用于颞部颅骨的重建。

**Temporal fossa plate:** For reconstruction of mastoid parts.

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数 Number of holes	
ONLS11 O形接骨板	0210110106	221111110601	20*31	9	
ONLS11 O形接骨板	0210110206	221111110602	23*35	8	
ONLS11 O形接骨板	0210110306	221111110603	29*38	8	
ONLS11 O形接骨板	0210110406	221111110604	18*26	4	
ONLS11 O形接骨板	0210110506	221111110605	23*30	4	
ONLS11 O形接骨板	0210110606	221111110606	27*35	4	



**可调节弧形颅缝板:** 用于颅骨去骨瓣或钻孔手术后的重建。

**Adjustable arc cranial suture plate:** For reconstruction of craniectomy operation.

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
XNLS03X形接骨板	0204030106	221104030601	12*29	
UNLS04U形接骨板	0202040106	221102040601	30*94	

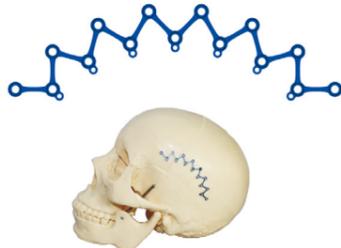


# 接骨板、螺钉系统

## Bone plate, screw system

**颞肌悬挂板:** 用于颞肌剥离后的重建与修复。

**Temporalis suspension plate:** For repair & reconstruction after temporalis exfoliation.

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
ZNLS03 Z形接骨板	0208030106	221108030601	76	

**近颞神经板:** 用于颞神经周围颅骨的重建与修复。

**Temporalis suspension plate:** For repair&reconstruction of skull part near Temporal nerve.

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
UNLS04 U形接骨板	0202040906	221102040609	21*33	
UNLS04 U形接骨板	0202041006	221102040610	28*45	

**神经间隙板:** 用于神经间隙部位覆盖式颅骨修复,同时也可用于局部缺损及弧形修复使用。

**Synaptic cleft plate:** For repair of skull near synaptic cleft part, and both for repair of local defect and arc part.

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
UNLS04 U形接骨板	0202041106	221102040611	12*25	
UNLS04 U形接骨板	0202041206	221102040612	12*35	
UNLS04 U形接骨板	0202041306	221102040613	12*45	

**颅孔板:** 应用于颅骨钻孔引流减压术或持续引流,需要颅孔修复的,同时也可用于小的颅骨缺损修复与骨折固定用。

**Cranial pore plate:** For persistent drainage or decompression after skull drilling, and for skull pore repair, it can also be used for repairing defect of skull and fixing fracture.

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
ONLS01 O形接骨板	0210010406	221111010601	16	
ONLS01 O形接骨板	0210010506	221111010602	18	
ONLS01 O形接骨板	0210010606	221111010603	22	
ONLS05 O形接骨板	0210050406	221111050601	16	
ONLS05 O形接骨板	0210050506	221111050602	18	
ONLS05 O形接骨板	0210050606	221111050603	22	
ONLS07 O形接骨板	0210070106	221111070601	12	
ONLS07 O形接骨板	0210070206	221111070602	16	
ONLS07 O形接骨板	0210070306	221111070603	18	
ONLS07 O形接骨板	0210070406	221111070604	22	

### 引流颅孔板 Drainage cranial pore plate

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
ONLS07 O形接骨板	0210070506	221111070605	12*4	
ONLS07 O形接骨板	0210070606	221111070606	16*4	
ONLS07 O形接骨板	0210070706	221111070607	18*4	
ONLS07 O形接骨板	0210070806	221111070608	22*4	

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
ONLS08 O形接骨板	0210080106	221111080601	18*6	
ONLS08 O形接骨板	0210080206	221111080602	18*3	
ONLS08 O形接骨板	0210080306	221111080603	18*3.2	
				

# 接骨板、螺钉系统

## Bone plate, screw system

**眶底板:** 用于颅骨眶底缺损的修复与重建。

**Orbital floor plate:** For repair&reconstruction of orbital floor.

**超薄颅底眶底板:** 1.0mm系统。

**Extra thin orbital floor plate:** 1.0 mm system.



型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification
UNLS04	0202040102	221102040201	60*60
UNLS04	0202040402	221102040202	60*120
UNLS04	0202040302	221102040203	60*60
UNLS04	0202040602	221102040204	60*120
UNLS04	0202040202	211102040201	60*60
UNLS04	0202040502	211102040202	60*120

### 眶底板 Orbital floor plate

**1.0mm系统**  
**1.0mm system**



型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification
DYNLS03 双Y形接骨板	0209030104	211109030401	23*24
DYNLS03 双Y形接骨板	0209030204	211109030402	34*30
DYNLS03 双Y形接骨板	0209030304 (左)	211109030403 (左)	44*30
DYNLS03 双Y形接骨板	0209030404 (右)	211109030404 (右)	44*30

DYNLS03 双Y形接骨板	0209030504	211109030405 (左)	28*30
DYNLS03 双Y形接骨板	0209030604	211109030406 (右)	28*30
DYNLS03 双Y形接骨板	0209030704 (左)	211109030407 (左)	40*32
DYNLS03 双Y形接骨板	0209030804 (右)	211109030408 (右)	40*32
DYNLS03 双Y形接骨板	0209030904	211109030409	70*39

**1.5mm系统**  
**1.5mm system**



型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification
DYNLS03 双Y形接骨板	0209030306 (左)	221109030603 (左)	44*30
DYNLS03 双Y形接骨板	0209030406 (右)	221109030604 (右)	44*30
DYNLS03 双Y形接骨板	0209030706 (左)	221109030607 (左)	44*32
DYNLS03 双Y形接骨板	0209030806 (右)	221109030608 (右)	44*32
DYNLS03 双Y形接骨板	0209030106	221109030601	23*24
DYNLS03 双Y形接骨板	0209030206	221109030602	34*30

# 接骨板、螺钉系统

## Bone plate, screw system

### 圆形接骨板（颅骨锁） Round bone plate

**应用建议：**本系统主要应用于颅骨的自体原位移植重建，有灭菌包装和非灭菌包装两种，并配有整套的工具，操作简单、快捷、有效。

**Application suggestion:** The system is mainly used in the autograft&reconstruction of skull, it include aseptic package and non-aseptic package with a compressive set of tools.It's easy, fast and effective during operation.

型号 Type	规格 (mm) Specification	10位编码 10 digit number	12位编码 12 digit number
ONLS03 O形接骨板	12*0.6	0210030706	221111030604
ONLS03 O形接骨板	16*0.6	0210030806	221111030605



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### 普通接骨板、螺钉 General bone plates, screws

#### 1.0mm系统 1.0mm system



型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
SNLS01 直形接骨板	0201010104	211101010401	15	
SNLS01 直形接骨板	0201010204	211101010402	23	
LNLS01 L形接骨板	0203010104	211103010401	7*15	
LNLS01 L形接骨板	0203010204	211103010402	7*15	
XNLS01 X形接骨板	0204010104	211104010401	8*12	
YNLS01 Y形接骨板	0205010104	211105010401	8*13	
YNLS01 Y形接骨板	0205010204	211105010402	8*17	
ONLS09 O形接骨板	0210090104	211111090401	12	
ONLS09 O形接骨板	0210090204	211111090402	17	
ONLS09 O形接骨板	0210090304	211111090403	19	

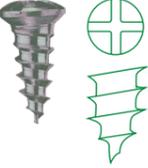
# 接骨板、螺钉系统

## Bone plate, screw system

(接上表)

### 接骨板配套螺钉 Screw fittings for bone plates

#### 自攻自钻螺钉 self-tapping & drilling screws

型号 Type	8位编码 8 digit number	12位编码 12 digit number	规格 (mm) Specification
NLSSD01	00E10040	212210211004	1.0*4.0
NLSSD01	00E10050	212210211005	1.0*5.0
NLSSD01	00E10060	212210211006	1.0*6.0
NLSSD01	00E10070	212210211007	1.0*7.0
NLSSD01	00E13040	212210211304	1.3*4.0
NLSSD01	00E13050	212210211305	1.3*5.0
NLSSD01	00E13060	212210211306	1.3*6.0
			
NLSSD01	00E15040	222210211504	1.5*4.0
NLSSD01	00E15050	222210211505	1.5*5.0
NLSSD01	00E15060	222210211506	1.5*6.0
NLSSD01	00E15070	222210211507	1.5*7.0
			

#### Φ2.0mm自攻自钻螺钉 Φ2.0mm Self-tapping & drilling screw

型号 Type	8位编码 8 digit number	12位编码 12 digit number	规格 (mm) Specification
NLSSD01	00E20040	232210212004	2.0*4.0
NLSSD01	00E20050	232210212005	2.0*5.0
NLSSD01	00E20070	232210212007	2.0*7.0
NLSSD01	00E20080	232210212008	2.0*8.0
			

**应用建议:** 小儿颅骨修复与重建

**Application suggestion:** Repair & reconstruction for the skull of children

### 普通接骨板、螺钉 General bone plates, screws

1.5mm系统  
1.5mm system



### 直形接骨板 Straight bone plates

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
SNLS01 直形接骨板	0201010106	221101010601	9	
SNLS01 直形接骨板	0201010206	221101010602	11	
SNLS01 直形接骨板	0201010306	221101010603	13	
SNLS01 直形接骨板	0201010406	221101010604	15	
SNLS01 直形接骨板	0201011006	221101010610	16	
SNLS01 直形接骨板	0201011106	221101010611	17	
SNLS01 直形接骨板	0201011206	221101010612	19	
SNLS01 直形接骨板	0201011906	221101010619	23	
SNLS01 直形接骨板	0201012006	221101010620	31	
SNLS01 直形接骨板	0201012106	221101010621	63	
SNLS01 直形接骨板	0201012106	221101010621	63	

### X形接骨板 X-shaped bone plates

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
XNLS01 X形接骨板	0204010706	221104010607	11*11	
XNLS01 X形接骨板	0204010106	221104010601	11*15	
XNLS01 X形接骨板	0204010206	221104010602	11*17	
XNLS01 X形接骨板	0204010506	221104010605	11*19	

# 接骨板、螺钉系统

## Bone plate, screw system

### H形接骨板 H-shaped bone plates

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
HNLS01 H形接骨板	0206010106	221106010601	8	
HNLS01 H形接骨板	0206010206	221106010602	10	
HNLS01 H形接骨板	0206010306	221106010603	12	
HNLS02 H形接骨板	0206020106	221106020601	11*11	
HNLS02 H形接骨板	0206020206	221106020602	11*15	

### Z形接骨板 Z-shaped bone plates

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
ZNLS01 Z形接骨板	0208010106	221108010601	9	
ZNLS01 Z形接骨板	0208010206	221108010602	9	
ZNLS01 Z形接骨板	0208010306	221108010603	11	
ZNLS01 Z形接骨板	0208010406	221108010604	11	
ZNLS01 Z形接骨板	0208010506	221108010605	13	
ZNLS01 Z形接骨板	0208010606	221108010606	13	

### 口字形接骨板 □-shaped bone plates

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
QNLS01 矩形接骨板	0202030106	221110010601	7*9	
QNLS01 矩形接骨板	0202030206	221110010602	7*15	
QNLS01 矩形接骨板	0202030306	221110010603	9*17	
QNLS02 矩形接骨板	0202030506	221110020601	9*9	
QNLS02 矩形接骨板	0202030606	221110020602	9*15	
QNLS02 矩形接骨板	0202030706	221110020603	9*21	
QNLS02 矩形接骨板	0202031006	221110020605	12*12	
QNLS02 矩形接骨板	0202031106	221110020606	12*20	
QNLS02 矩形接骨板	0202031206	221110020607	12*29	
QNLS02 矩形接骨板	0202031406	221110020609	12*22	
QNLS02 矩形接骨板	0202031506	221110020610	14*40	
QNLS02 矩形接骨板	0202030906	221110020616	20*13	
QNLS02 矩形接骨板	0202031706	221110020612	7*83	
QNLS02 矩形接骨板	0202031806	221110020613	7*43	
QNLS01 矩形接骨板	0202030406	221110010604	17*33	
QNLS02 矩形接骨板	0202030806	221110020604	21*33	
QNLS02 矩形接骨板	0202031306	221110020608	29*46	
QNLS02 矩形接骨板	0202031606	221110020611	48*75	

PLATES & SCREWS

# 接骨板、螺钉系统

## Bone plate, screw system

### 滑动牵引接骨板 Sliding traction bone plate

**应用建议:** 滑动牵引接骨板适用于颅骨矫形、重建、修复时两骨缘的滑动牵引。

**Application suggestion:** Sliding traction bone plate is applied to slide & draw for both two bone margin at the period of orthopaedic, reconstruction, repair of skull.

#### 1.5mm系统 1.5mm system

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
HNLS01 H形接骨板	0206010110	231106011001	12*26	
HNLS02 H形接骨板	0206020610	231106021006	11*35	
SNLS01 直形接骨板	0201012510	231101011029	35	
TNLS01 T形接骨板	0207012010	231107011020	11*22	

### 钛合金异型接骨板 Titanium alloy bone plate

#### 1.5mm系统 1.5mm system



型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
SCBP 直形接骨板	BYJGI50621	261201010601	13	
SCBP 直形接骨板	BYJGI50622	271201010601 (紫红色)	17	
SCBP 直形接骨板	BYJGI50641	261201010602	15	
SCBP 直形接骨板	BYJGI50642	261201010603	19	
SCBP 直形接骨板	BYJGI50643	261201010604	21	
SCBP 直形接骨板	BYJGI50661	261201010605	26	
SCBP 直形接骨板	BYJGI50662	261201010606	33	

SCBP 直形接骨板	BYJGI50612	261201010609	69	
SCBP 直形接骨板	BYJGI50610	261201010608	57	
SCBP 直形接骨板	BYJGI50616	261201010610	93	
UCBP U形接骨板	BYJGVII506U1	261207010601	4*21	
UCBP U形接骨板	BYJGVII506U2	261207010602	5*28	
UCBP U形接骨板	BYJGVII506U3	261207010603	5*29	
UCBP U形接骨板	BYJGVII506U4	261207010604	6*37	
LCBP L形接骨板	BYJGV506L1	261205010601	8*16	
LCBP L形接骨板	BYJGV506L2	261205010602	8*16	
QCBP 口字形接骨板	BYJGVI506K7	261206010607	9*21	
TCBP T形接骨板	BYJGIV506T1	261204010601	9*16	
TCBP T形接骨板	BYJGIV506T2	261204010602	9*20	

# 接骨板、螺钉系统

## Bone plate, screw system

### 钛合金异型接骨板 Titanium alloy bone plate

#### 2.0mm系统 2.0mm system



型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
SCBP 直形接骨板	BYJGI50821	271201010801	17	
SCBP 直形接骨板	BYJGI50841	271201010802	24	
SCBP 直形接骨板	BYJGI50842	271201010803	26	
SCBP 直形接骨板	BYJGI50844	271201010805	29	
SCBP 直形接骨板	BYJGI50845	271201010806	23	
SCBP 直形接骨板	BYJGI50861	271201010808	33	
SCBP 直形接骨板	BYJGI50862	271201010809	35	
SCBP 直形接骨板	BYJGI50881	271201010811	47	
SCBP 直形接骨板	BYJGI50816	271201010813	95	
LCBP L形接骨板	BYJGV508L1	271205010801	11*29	
LCBP L形接骨板	BYJGV508L2	271205010802	11*29	

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
SACBP 单叉形接骨板	BYJGII508L3	271202010801	9*32	
SACBP 单叉形接骨板	BYJGII508L4	271202010802	9*32	
LCBP L形接骨板	BYJGV508L5	271205010803	11*17	
SACBP 单叉形接骨板	BYJGII508L7	271202010803	9*20	
TCBP T形接骨板	BYJGIV508T1	271204010801	11*29	
TCBP T形接骨板	BYJGIV508T2	271204010802	17*23	
TCBP T形接骨板	BYJGIV508T4	271204010804	11*19	
TCBP T形接骨板	BYJGIV508T5	271204010805	11*23	

# 接骨板、螺钉系统

Bone plate, screw system

## 2.0mm系统 2.0mm system



型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
SCBP 直形接骨板	BYJGI51021	271201011001	17	
SCBP 直形接骨板	BYJGI51041	271201011002	19	
SCBP 直形接骨板	BYJGI51042	271201011003	21	
SCBP 直形接骨板	BYJGI51043	271201011004	24	
SCBP 直形接骨板	BYJGI51044	271201011005	26	
SCBP 直形接骨板	BYJGI51045	271201011006	29	
SCBP 直形接骨板	BYJGI51061	271201011007	33	
SCBP 直形接骨板	BYJGI51062	271201011008	35	
SCBP 直形接骨板	BYJGI51063	271201011009	37	
SCBP 直形接骨板	BYJGI51081	271201011010	47	
SCBP 直形接骨板	BYJGI51012	271201011011	71	
SCBP 直形接骨板	BYJGI51016	271201011012	95	
UCBP U形接骨板	BYJGVII510U1	271207011001	7*24	
UCBP U形接骨板	BYJGVII510U2	271207011002	6*26	
UCBP U形接骨板	BYJGVII510U3	271207011003	8*35	
UCBP U形接骨板	BYJGVII510U5	271207011005	8*34	

型号 Type	10位编码 10 digit number	12位编码 12 digit number	规格 (mm) Specification	孔数如图示
TCBP T形接骨板	BYJGIV510T2	271204011002	17*23	
TCBP T形接骨板	BYJGIV510T5	271204011005	11*29	
LCBP L形接骨板	BYJGV510L1	271205011001	11*20	
LCBP L形接骨板	BYJGV510L2	271205011002	11*20	
DACBP 双叉形接骨板	BYJGIII510Y1	271203011001	12*21	
XCBP X形接骨板	BYJGX510X1	271210011001	13*22	

# 接骨板、螺钉系统

Bone plate, screw system

## Φ1.6mm自攻自钻螺钉 Φ1.6mm Self-tapping & drilling screw

型号 Type	8位编码 8 digit number	12位编码 12 digit number	规格 (mm) Specification
CSD-01	00E16050	262210211605	1.6*5.0
CSD-01	00E16070	262210211607	1.6*7.0



## Φ2.0mm自攻螺钉 Φ2.0mm Self-tapping screw

型号 Type	8位编码 8 digit number	12位编码 12 digit number	规格 (mm) Specification
SST-01	00A20080	272220112008	2.0*8.0
SST-01	00A20090	272220112009	2.0*9.0
SST-01	00A20100	272220112010	2.0*10
SST-01	00A20120	272220112012	2.0*12
SST-01	00A20140	272220112014	2.0*14
SST-01	00A20160	272220112016	2.0*16
SST-01	00A20180	272220112018	2.0*18
SST-01	00A20200	272220112020	2.0*20



## Φ2.0mm自攻自钻螺钉 Φ2.0mm Self-tapping & drilling screw

型号 Type	8位编码 8 digit number	12位编码 12 digit number	规格 (mm) Specification
CSD-01	00E20040	272210212004	2.0*4.0
CSD-01	00E20050	272210212005	2.0*5.0
CSD-01	00E20070	272210212007	2.0*7.0
CSD-01	00E20080	272210212008	2.0*8.0



## 工具消毒盒

### Instruments sterilizer case

#### 产品特点 Advantages

- a) 高分子工具消毒盒,可高温高压消毒,不变形。
  - b) 精确人体工程学制造。
  - c) 简单方便,易于携带。
  - d) 钉盒采用智能设计,易于拆装,取钉准确。
- a) Macromolecule instruments sterilizer case could be sterilized in high temperature and high pressure and Nondeformable.
  - b) It's accurate human engineering made
  - c) It's simple and convenient to carry.
  - d) Screw case adopts intelligent design which enables easy unloading and accurate fetching of screws.



编号 (S/N) : WDTO 02145

#### 接骨板专用消毒盒 (含持钉盒、螺丝刀手柄、螺丝刀杆)

Special disinfection box for bone plate (including screw holding box, screwdriver handle and screwdriver rod)



编号 (S/N) : WDT002075

# 医学数字化设计制造

## Medical digital design&manufacture

### 医学数字化设计制造中心介绍

#### Introduction of medical digital design and manufacturing center

本中心与北京工业大学和华南理工大学的先进制造技术中心及医学专家进行广泛交流合作, 致力于研究先进制造技术在不同医学科学的应用。

医学数字化制造中心在技术及核心设备上全方位采取中外合作, 致力成为国内专业性的医学数字化设计作中心。

在技术上结合快速成型技术、影像处理技术和世界级的自动化逆向工程软件, 在快速成型领域提供高效精准的设计。

北京隆源提供自动成型系统--工业级3D打印机, 配套3D快速曲面成型机和相关配套设备, 提供准确的模型和设计样式支持, 为患者和医生提供更直观的钛网成型服务。

**设备配备:** 多台中外技术结合的激光3D快速成型系统、电脑加工中心、3D快速曲面成型系统、磁力研磨系统、阳极氧化系统表面处理设备。

**人员配备:** 专业技术人员6名: 其中医学硕士1名, 工学本科工程师1名, 成型工程师1名, 工艺师2名。

The center has extensive exchanges and cooperation with advanced manufacturing technology centers and medical experts of Beijing University of technology and South China University of Technology in China, and is committed to research the application of advanced manufacturing technology in different medical sciences.

The Medical Digital Manufacturing Center adopts Sino-Foreign cooperation on all aspects of technology and core equipment, and strives to become a professional medical digital design center in China.

In technology, it combines rapid prototyping technology, image processing technology and world-class automatic reverse engineering software to provide efficient and accurate design in the field of rapid prototyping.

The Beijing Longyuan provide automatic forming system--industrial grade 3D printer is equipped with 3D rapid surface forming machine and related equipment to provide accurate model and design style support, and provide more intuitive titanium mesh forming service for patients and doctors.

**Facilities Configuration:** A number of domestic and foreign technology combination of laser 3D rapid prototyping system, CNC machining center, 3D rapid curved surface forming system, magnetic abrasive finishing system, anodizing system for surface treatment.

**Staffing:** 6 professional and technical personnel: 1 medical master, 1 engineering undergraduate engineer, 1 molding engineer, 2 craftsmen.

### 业务范围

- 1) 颅骨缺损个性化数字钛网制造
- 2) 个性化颌面外科模型及产品
- 3) 术前讨论用模型
- 4) 病理教学模型

### Business Scope

- 1) Digital manufacturing of titanium mesh for individual skull defects
- 2) Individual models and products of maxillofacial surgery
- 3) Preoperative discussion model
- 4) Pathology teaching model

### 优势特点

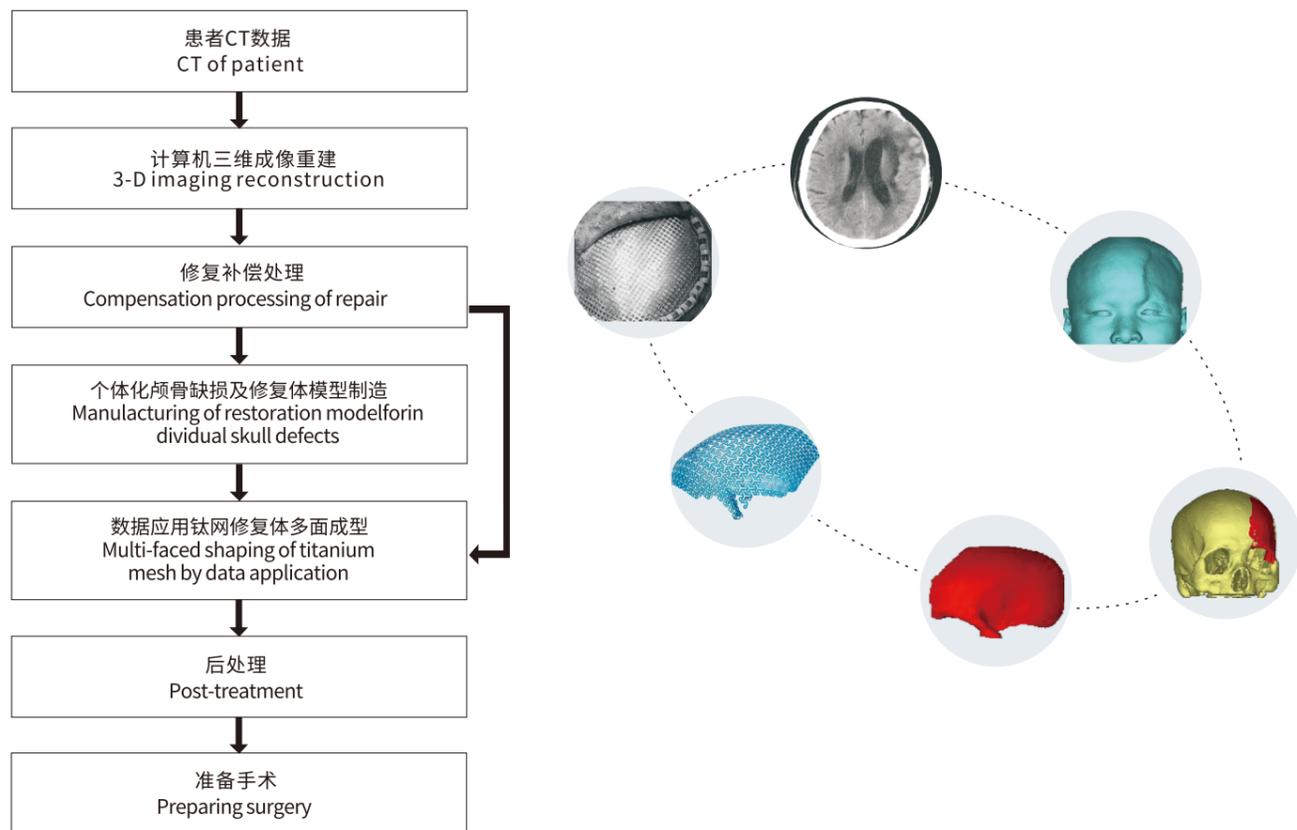
- **安全可靠:** 大面积缺损推荐选用刚性较强的二维钛网, 强度提高60%, 无回弹无塌陷, 保护可靠; 小面积缺损推荐使用韧性较强的三维钛网, 在弧度, 曲面复杂的情况下更具优势, 术中调整更方便。
- **成型精确:** 根据术者操作习惯, 提供个性化数字成型技术, 使缺损部位的修复更加精准。
- **完美自然:** 依靠数字化成型技术合体对称自然美观。使患者自信回归, 提高生活质量。
- **植入量少:** 采用3D数字成型技术, 最大程度恢复颅骨缺损的原貌, 减少材料用量。
- **节省方便:** 术前让医生预先观察塑形和钛网安装位置, 术中无需费时调整, 节省术程, 减少麻醉时间, 降低麻醉费用, 减轻病人痛苦与经济负担。

### Advantage & characteristics

- **Safe and reliable:** large-area defect is recommended to use two-dimensional titanium mesh with strong rigidity, the strength is increased by 60%, no rebound and no collapse, and the protection is reliable. For small-area defects, it is recommended to use a three-dimensional titanium mesh with strong toughness. In the case of more advantages, intraoperative adjustment is more convenient.
- **Precise molding:** According to each doctor's surgical operation habits, provide personalized digital molding technology to make the repair of defective parts more precise.
- **Perfectly natural:** relying on digital forming technology to combine symmetry and natural beauty. Make patients return to self-confidence and improve their quality of life.
- **Less implants:** 3D digital forming technology to restore the original appearance of the skull defect and reduce the amount of materials.
- **Convenient saving:** Before the operation, the doctor can observe the shaping position of the shaping and titanium mesh in advance, without time-consuming adjustment during the operation, saving the procedure, reducing the anesthesia time, reducing the anesthesia cost, and reducing the patient's pain and economic burden.

## 制造流程

### Manufacturing process



## 注意事项

- CT数据采集要完整、准确, 不能出现错层、漏层。
- CT数据以3mm以内扫描层厚度为佳, 模型更精确。
- 数据要超过患者实际缺损部位1cm。
- CT数据以可用于三维重建Dicom格式保存。
- 采集CT数据时要把患者姓名、性别、年龄、医院名称标识清楚。

## Precautions

- Data collection of CT should be complete, accurate without 'staggered floor' and 'leaking layer'.
- For the CT data, the better thickness of scanning layer is within 3mm, thus get more accurate model.
- The data over actual defect site should be more than 1cm.
- CT data can be saved as three-dimensional reconstruction Dicom format.
- When collecting CT data, the age, gender, name of patient and the hospital logo should be labeled clearly.

## 儿童生长滑动槽钛网

### Titanium mesh of the sliding groove at growth for children

#### 优势特点

##### Advantages

设计有固定钉滑动槽, 可随着年龄的增长, 固定钉可沿滑动槽放射性滑动, 减少原位固定对颅骨发育的影响。

This titanium mesh has settled sliding groove, the fixed screw can radioactively slide along the sliding groove to reduce the influence of the previous fixation on skull growth.

#### 适应症

##### Indications

适用于颅骨生长期少年儿童颅骨的修复, (生长滑动槽钛网需订制)

It is applied to restore of skull defect of growing children. (It should be customized)

