

# Computer Assisted Circular Hexapod Fixator









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www.responseortho.com





#### Introduction

Smart Correction® Computer-Assisted Circular Hexapod External Fixator System is a copyrighted software based deformity correction and fracture reduction platform.

Smart Correction® is designed for the treatment of open and closed fractures, limb lengthening, deformity and angular correction, non- unions, malunions, arthrodesis and pseudo arthrosis of long bones.

The frame is comprised of rings, struts, wire and screw clamps, articular hinge, threaded rods and variety of wires and screws. The advanced material technology creates strong but lightweight frame, enhanced patient comfort and MRI compatibility. It is also fully compatible with standard Ilizarov type components.

The system provides easy application, high mechanical stability and precise correction in all planes via unique web based software www.smartcorrection.com.

#### Indications

## Smart Correction<sup>®</sup>

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#### **INDICATIONS**

- Trauma
  - Acute
  - Sequela period
- Deformity
  - Frontal / Sagittal / Rotational (degree)
  - Limb length discrepency / Translation
  - Combinations
- Pseudoarhtrosis
  - Compression/ Distraction
  - Deformity + Pseudoarthrosis
  - LLD + Deformity+ Pseduoarthrosis
- Open fracture
- Comminuted fracture
- Periarticular fracture
- Post-traumatic deformity
- Congenital deformity
- Foot deformity
- Developmental hip dysplasia
- Chronic osteomyelitis
- Tumor resection
- Pseudoarthrosis

#### **COMPONENTS**

#### Rings



- Low profile aircraft grade aluminum (6mm)
- Available between 105mm and 300mm inner diameter with 15mm increase
- Parallel; concentric dual holes allow optimal wire and screw positioning
- Modular; Full Ring, 2/3 Ring, 1/3 Ring, Foot Ring between 105mm and 300mm diameter with 15mm increase
- Flexible; helping surgeons to create different frames for diaphyseal and/or metaphyseal areas
- Compatibile with UniX Rail and Standard Fixators for hybrid frames

#### Struts



- Lightweight composite struts manufactured from aluminum and titanium
- Standard and Express (rapid adjustment) struts in 7 different sizes covering a range of of 55mm- 500mm of compression or distraction
- Ball and spring mechanism to help prevent unplanned length changes
- Standard struts are ideal for gradual correction such as for foot and pediatric cases
- Express struts allow for both acute and gradual distraction including fracture reduction

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Strut Type	Range	(mm
Dual Joint Strut, XXX Short	40	60
Dual Joint Strut, XX Short	60	75
Dual Joint Strut, X Short	75	95
Dual Joint Strut, Short	90	125
Dual Joint Strut, Medium	115	175
Dual Joint Strut, Long	165	275
Dual Joint Strut, X Long	265	475
Dual Joint Express Strut, X Short	100	120
Dual Joint Express Strut, Short	115	150
Dual Joint Express Strut, Medium	140	200
Dual Joint Express Strut, Long	190	300
Dual Joint Express Strut, X Long	290	500

#### Wires

Smart Correction System offers both straight and olive stainless steel wires in a variety of diameters (1.6, 1.8 & 2mm) and finishes trocar and bayonet tipped.



#### Bone Screws

- Tapered screws for stronger bone purchase
- Trocar or blunt point screws for faster or drill first • In addition to its use with standard Ilizarov type hinges the Smart Correction System offers application surgeons the Articular Hinge for rotational • HA & Uncoated screws in both 4.5mm and stabilisation across the knee, allowing for 6mm diameters further compression and distraction. Universal 6mm shank design





#### Product Features





#### Product Features

#### Instrumentation

• 00-0083-02, Wire Tensioner;



• 00-5020-00, Wire Plier;



• 00-0034-40, Wire Cutter;



• 00-0052-XX, Soft Tissue Guide; (Available Lengths 40, 60 and 100mm)



• 00-0050-00, Trocar;



• 00-2050-10P, 10mm Handle, 90°; tighten the nuts and bolts



• 00-2050-10, 10/10 Handle, 90°; (10mm spanner)



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• 00-2050-13, 13/13 Handle; (13mm spanner)



• 00-0013-90, Depth Gauge, 4.5/6.0mm Range, 90mm length; measure the depth for correct bone screw shaft and threaded selection



User Friendly Software; Smart Correction's software is accurate, easy to use and web-based accessible from all platforms via www.smartcorrection.com.

















17 YO, M, Operated Tibia Nonunion, Varus+Procurvatum





#### Case Examples



#### 10 YO, M, 3 years ago Falling from high, Procurvatum + Varus Deformity + 4cm LLD



#### 15 YO, F, Multiple Hereditary Exostoses, Genu Varum + 4 cm LLD











#### Case Examples

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15 YO, F, BiFocal Application, 7cm Lengthening and Deformity Correction



15 YO, F, BiFocal Application, 7cm Lengthening and Deformity Correction



25 YO, M, Residual Deformity After Tibial Lengthening













#### Case Examples

#### X YO. M, Acute Compression

#### 17 YO, F, Bilateral Genu Varum

#### 14 YO, F, Multiple LE Deformities

#### Case Examples .

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37 YO. M, Segment Transport













18 YO, F. Charcot Foot



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#### FRAME ASSEMBLY

#### a. Standard Frame Procedures

Application of the frame uses basic Ilizarov principles, including two levels of fixation per segment, which can be achieved through the use of EasyLock clamps, cubes or additional rings and threaded rods. A single level frame consists of 2 rings and 6 struts connected with bolts. The bone segments are fixed to the rings using a combination of bone screws and K-wires. Typically the rings used are 50-60mm bigger diameter than the limb to avoid any skin contact initially and during correction process.

Position the proximal ring, such that the fixation hole marked with #1 is placed as approximately Anterior to the proximal segment of bone as possible in the Sagittal plane. This simply aids orientation and is not an absolute requirement.

The ring is placed perpendicular (at 90°) to the long axis of the bone, and the diaphysis although this is not an absolute requirement.



The 2/3 rings do not include hole #1. Any numbe can be placed in the most anterior position based on surgical choice.

Note : All rings should be placed such that the numbers are oriented correctly when viewed from the distal aspect of the readable, horizontally lined, not upside down.







#### **Distal Ring Placement**

Generally, the distal ring is placed perpendicular (90°) to the diaphysis or joint line. This will likely mimic the deformity which generally results in the rings moving to a parallel position to each other at the end of the treatment.

#### Struts

The struts must be installed and fixed to the outer holes only, in a rough triangular geometric configuration. The struts ideally should be placed in pairs approximately equidistant around the circumference of the ring. *The advanced nature of* 

the smart correction allows surgeons to choose the *final position of the struts*, even allowing the struts in a particular pair to be separated by a number of holes. Thus allowing easy access to potential wound sites or skin flaps.

All rings are compatible with each other. Different diameter rings can be used in the same frame, as can combinations of full, 2/3 and foot rings.

Ideal strut positions are shown in the table below.



٢	Proximal	Ide	al Strut Positio	ons	Acceptable
d	Ring Size	S1 & S2	S3 & S4	S5 & S6	tolerance
	105 mm	1&2	10 & 11	19 & 20	±2 holes
	120 mm	1&2	11 & 12	21 &22	±2 holes
n	135 mm	1&2	12 & 13	23 & 24	±2 holes
	150 mm	1&2	13 & 14	25 & 26	±2 holes
	165 mm	1&2	14 & 15	27 & 28	±3 holes
	180 mm	1&2	15 & 16	29 & 30	±3 holes
	195 mm	1&2	16 & 17	31 & 32	±4 holes
	210 mm	1&2	17 & 18	33 & 34	±4 holes
	225 mm	1&2	18 & 19	35 & 36	±4 holes



Distal	Ide	al Strut Positi	ons	Acceptable
Ring Size	S2 & S3	S4 & S5	S6 & S1	tolerance
105 mm	25 & 6	7 & 15	16 & 24	±2 holes
120 mm	6&7	16 & 17	26 & 27	±2 holes
135 mm	6&7	17 & 18	28 & 29	±2 holes
150 mm	7&8	19 & 20	31 & 32	±2 holes
165 mm	7&8	20 & 21	32 & 33	±3 holes
180 mm	8&9	22 & 23	36 & 37	±3 holes
195 mm	9 & 10	24 & 25	39 & 40	±4 holes
210 mm	9 & 10	25 & 26	41 & 42	±4 holes
225 mm	45 & 10	11 & 27	28 & 44	±4 holes

Both inner and outer holes can be used for wire and bone screw clamps. However, it is recommended that outer holes be used as the location of the wire clamp from which the wire is to be tensioned.

#### b. 2/3 Ring Frame Procedures

2/3 rings are applied as described above. 2/3 rings do not have the proximal 3rd of the ring, hence the numbering of the ring holes begins in the mid range, illustrated in the table below. The 2/3 rings can be converted to a whole ring by the addition of a 1/3 ring and ring connector (50-1018-00A). This can prove useful during X-Ray imaging.

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Proximal 2/3		Posterior Open	
Ring Size	S1 & S2	S3 & S4	S5 & S6
105 mm	13 & 14	21 & 22	6&7
120 mm	15 & 16	24 & 25	7&8
135 mm	16 & 17	26 & 27	7&8
150 mm	19 & 20	29 & 30	8&9
165 mm	20 & 21	31 & 32	8&9
180 mm	21 & 22	34 & 35	9 & 10
195 mm	23 & 24	37 & 38	10 & 11
210 mm	24 & 25	39 & 40	10 & 11
225 mm	27 & 28	42 & 43	11 & 12

Distal 2/3		Posterior Open	
Ring Size	S2 & S3	S4 & S5	S6 & S1
105 mm	21 & 22	6&7	13 & 14
120 mm	24 & 25	7&8	15 & 16
135 mm	26 & 27	7&8	16 & 17
150 mm	29 & 30	8&9	19 & 20
165 mm	31 & 32	8&9	20 & 21
180 mm	34 & 35	9 & 10	21 & 22
195 mm	37 & 38	10 & 11	23 & 24
210 mm	39 & 40	10 & 11	24 & 25
225 mm	42 & 43	11 & 12	27 & 28

Distal 2/3		Anterior Open	
Ring Size	S2 & S3	S4 & S5	S6 & S1
105 mm	6&7	13 & 14	21 & 22
120 mm	7&8	15 & 16	24 & 25
135 mm	7&8	16 & 17	26 & 27
150 mm	8&9	19 & 20	29 & 30
165 mm	8&9	20 & 21	31 & 32
180 mm	9 & 10	21 & 22	34 & 35
195 mm	10 & 11	23 & 24	37 & 38
210 mm	10 & 11	24 & 25	39 & 40
225 mm	11 & 12	27 & 28	42 & 43

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#### c. Bi-Focal Frame Procedures

The construction of frame for bi-focal application is simple. The most proximal frame is assembled over the most proximal focal point (fracture line, point of deformity) using the method as described above.



A third ring is then introduced distal to the second ring such that the second focal point lies between the second and third ring. The third ring is then connected to the second ring in a similar fashion to that described above. Due to the advanced nature of the Smart Correction system the second row of struts do not have to be in line with those located between the first and second ring. In all cases the struts should only be attached to the rings using the outer holes.

Furthermore should the surgeon choose to he may connect any additional rings using, cubes or threaded rods and employ conventional Ilizarov techniques to achieve correction or additional stability.

#### d. Foot Ring Frame Procedures



Application of the foot ring is in the same manner as detailed above, with one exception.





#### User Instructions



Only the outer hole of a pair of holes should be used to fix the struts. Never the inner hole or the single central holes found in the arms of the foot ring.

The single holes are designed for K-wire and bone screw attachment only.

Foot	Dista	al Use - Anterior (	Dpen
Ring Size	S1 & S2	S3 & S4	S5 & S6
S - 105 mm	9 & 20	19 & 14	13 & 8
M - 120 mm	10 & 23	22 & 17	16 & 9
L - 135 mm	11 & 26	25 & 19	18 & 10

Proximal 2/3		Anterior Open	
Ring Size	S1 & S2	S3 & S4	S5 & S6
105 mm	6 & 11	12 & 17	18 & 22
120 mm	7 & 12	13 & 18	19 & 25
135 mm	7 & 13	14 & 20	21 & 27
150 mm	8 & 15	16 & 23	24 & 30
165 mm	8 & 15	16 & 23	24 & 32
180 mm	9 & 17	18 & 26	27 & 35
195 mm	10 & 19	20 & 29	30 & 38
Bi- focal con	structs can a	lso be used o	on the foot
and ankle. Th	ne principle c	of application	remains

the same as that described above for bi-focal application in long bones.



#### **ADVANCED CLAMP APPLICATION**

The Smart Correction system has a number of advanced features and components designed to speed application of the frame and allow the frame to be built to the patient's needs or fracture pattern.

#### Application of Advanced Screw & Wire Clamps

#### Height Adjustment





#### Vertical Angle of the Screw





#### Horizontal Angle of the Screw





#### All of the adjustment of the angulation and also fixation of the screw to the clamp is facilitated through a single locking nut mechanism located on the gold end of the horizontal portion of the Advanced Screw Clamp as highlighted below.

The ideal position of the bone screw is chosen by the Surgeon, the bone drilled and the screw introduce.

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The locking nut on the locking mechanism of the clamp is loosened using the 10mm spanner. (Care should be taken not to over loosen the mechanism).



The Advanced Clamp is then slide onto the bone screw and lightly tightened. The threaded portion of the Advanced Clamp is then passed through one of the holes in the ring and secured using a 10mm standard nut.



Alternatively if the ring is already in position slide the Advanced Screw Clamp onto the bone screw. Keeping the locking mechanism loose, pass the threaded portion of the Advanced Locking Clamp into the ring and secure using a 10 mm standard nut.

#### Application of Advanced Wire Clamps

The application of the Advanced Wire Clamp is similar to the above. However all wires should be passed bi-cortically from one side of the ring construct to the other. Also note when tensioning the wires when advanced screw clamps are employed the amount of tension should be limited to 70kg.



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#### EasyLock APPLICATION



The EasyLock bone screw fixation devices offer an easier to use alternative to the standard Rancho cube, rancho cube insert and 6mm set screw mechanism. Each EasyLock comes preassembled, and is composed of a blue metallic block and silver 10mm nut. Inside each nut lies a specially designed tear drop shaped split washer. The chosen bone screw runs through this washer, When the silver nut is tightened within the EasyLock the washer is squeezed gripping the bone screw firmly.

#### To use an EasyLock

#### First Screw

Chooses the most appropriate length, corresponding to the desired bone screw position. The threaded portion of the EasyLock body (Blue) is passed through the one of the holes in the ring and lightly (should be able to swivel under light pressure) fix it to the ring using a 10mm nut.



Remove the silver locking nut and the tear dropped shaped washer. Thread in the drill guide. Using the appropriate drill bit to drill the bone. Remove the drill bit and drill guide.







## User Instructions

Select the appropriate bone screw size. Pass the tear drop shaped washer onto the rear of the bone screw such that the "fat" end faces outwards. Place the screw onto the T handle bone screw introducer. Pass the screw through the EasyLock and into the bone.





Once the final position is achieved remove the T handle. Pass the silver locking nut along the shaft of the bone screw and thread it into the EasyLock body. Use figure presser initially tighten the nut. Once resistance is felt tighten the standard 10mm nut holding the EasyLock in position.



The silver locking nut is tightened on the EasyLock using the 10mm spanner until resistance is felt. Overtightening should be avoided.

#### Placement of Additional Bone Screws

The placement of additional bone screws in 2-6 hole EasyLock clamps is achieved in a similar manner to that described above with the exception that the nut holding the clamp remains tight, ensuring the bone screws remain parallel to each other.

#### **POST OPERATIVE ACTIONS**

Post Operatively the orientation of the frame, the position of the struts and the ring sizes should be recorded. A patient data form can be downloaded from the website (www.smartcorrection.com).

#### **X-RAY IMAGING**

In order to undertake the correction using the web based software it is necessary to obtain two radiographic images (one in the A/P plane and one in the M/L) and to record the position of the frame during the imaging.

The radiant point of the x-ray must be centralized over the mid-point of the frame. The distance between the x-ray source and the cartridge can be between 600mm to 1500mm. The following points need to be recorded on the patient data form.

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The X-Ray imaging is an important step of the process. While it is not an absolute requirement a good approximation to absolute AP and LM increases the accuracy of the correction process.

Furthermore accurate estimation of the nearest points on each of the rings (b and c) and the distance between the ring and the imaging cassette (d and e) are important for overlaying the x ray accurately when using the software to calculate the deformity correction.

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#### **USER FRIENDLY SOFTWARE**

Smart Correction utilizes a web based software application. The system uses a copyrighted radiographic navigation program which calculates the schedule of frame adjustment in order to achieve the desired correction.

In Trauma cases it is often beneficial to undertake this navigation immediately after assembly of the



#### Software Instructions

#### Log-In and Welcome

Once logged on to the software the user is presented with a menu. The navigation menu of this screen allows you to create, edit, revise patient records; add, edit and review saved cases; update



The Smart Correction® Computer-Assisted Circular External Fixator System is a copyrighted software based, deformity correction tool. This external fixator with its unique 6-struct construct, provides easy application, high mechanical stability and precise deformity correction via web/inked copyrighted suftware.

The unique software facilitates deformity correction in all geometric planes (axial frontal, coronal, translation).

Advanced materials technology employed in the manufacture of Smart Correction® components make the system strong, but lightweight, enhancing patient comfort.

Composite rings, titanium wires and screws facilitate X-ray and Magnetic Resonance Imaging.



- (b) : Nearest point of the frame to the x-ray source on the proximal ring
- (c) : Nearest point of the frame to the x-ray source on the distal ring
- (d) : clearance of the proximal ring from the cartridge
- (e) : clearance of the distal ring from the cartridge)





**User Instructions** 

frame while the patient is still under anesthetic. An immediate reduction of a fracture is often less traumatic for the patient.

#### s Software Access

In order to access the website all users need to complete a registration process prior to use. On registration the user is assigned a password and user name, confirmed by e mail.

user details and check documentations such as animations, catalogues, patient data forms and user manuals.



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#### New Patient Record

The first step for all new users or those treating a new patient is to create a New Patient Record.

#### Click "Patient"

A list of all patients treated by the user will appear.

Select "New" button



#### Complete the Patient Record Page appropriately.

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	ra Januaria	Test Surgeon   Error, Notice   Signout
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Address :	NJ	
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Ch Dalata	Wh true	
	Telephone : +1 (201) 20 Address : Note :	Telephone : +1 (201) 203-0520 Edgenante: NJ Address : Note : Note :

The user has the opportunity to include such information as the patients e-mail address. This can prove useful when updating treatment plans as they can be sent directly to the patient.

Once completed click "Save".

Two icons will appear

- "Delete" allows the user to delete the entry and all information.
- "New" saves the record and takes the user to the "New Case Start" screen.

It is possible to have several different cases held under each patient record, including any revised correction plans.

Complete the details of the patient case on the record form. It is important to record the nature of the limb affected (left or right) especially when it is anticipated that it will be necessary to include rotational correction.

Once completed click "Save". This will lock in the case and a new "Progress Bar" will appear in the bottom of the screen. This displays what of the

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remaining steps have been completed when setting up the correction programme. A second icon saying "Next Step" will appear on the right. Click "Next Step"

SmartCorrec	tion®	
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Patient : DEMO2 DEMO	12	
Surgeon : Demo 2 E	mail	Search
Case Name : Tibia		
Save		
Revision date		
Creator	Case Name	Stage
Terrifument	This	

#### Data Entry

#### Rings and Struts

Using the information recorded on the patient data form the size of the rings, and strut types can be selected using the drop down menus provided.







#### **User Instructions**

Note: Access to the next step in the programme can only be accessed when the information from the previous page has been successfully saved and the "Next Step" icon appears.

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a Once selected click "Save". The screen will darken as it uploads the information to the server. Once completed the "Next Step" icon will appear.

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#### Strut Position and Lengths

On the "Frame and Lengths" screen the user identifies the position on each ring and length of

each strut, as recorded on the patient data form.

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Note the system automatically places the struts into a default position based on the size of the ring used. It is important that the user amends these positions to represent the true frame that has be constructed.

Once the information has been completed click "Save". Once the data transfer is completed two virtual models will appear showing the frame in the A/P and M/L positions. This is an ideal point to check if the virtual frame is the same as the constructed frame. If it is different the user can amend the information and correct any errors made.

Once the user is satisfied click "Next Step"







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#### X-Ray Parameters

On this page the user enters the information that was recorded during the radiographic imaging of the frame.

Note; With the smaller ring sizes the accuracy of the determining the nearest point is more important than on larger rings. For this reason where the nearest point lies between two whole number the user judges the nearest point to 1 decimal place.

Once the information is completed click "Save"

Following the data transfer two grid line frame models will appear, along with the two additional icons (Choose file & Upload). The user must now



Number identifying nearest point to x-ray source on proximal ring (b)	ŧ.
Number identifying nearest point to x-ray source on distal ring (c)	2
Clearance of Proximal Ring from x-ray film (mm) (d)	0
Clearance of Distal Ring from x-ray film (mm) (e)	0



RESP SNSE



#### **User Instructions**

import the radiographs previously taken.

Click "Choose File"

Select the appropriate radiograph image file

Click "Upload"

Following the data transfer the process is repeated for the medial - lateral image.

Once both images are uploaded the orientation of each radiograph can be adjusted. This is achieved by a combination of rotation, sizing, positioning and variations in opacity until the radiograph images matches and over-lays the grid line frame models.

Once completed the user moves on to the next step by clicking "Save" followed by "Next Step".

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#### Deformity Parameter – Bone Segment Mapping

The user is now required to locate the chosen axis for each bone segment in both the frontal and laterial images.

From the screen menu select the "free hand" (left) or mid point (right).

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Within the "proximal segment" of the frontal view window select "top point".

Using the mouse select the point on the radiograph corresponding to this position (free hand) or the two cortices. Repeat the process for the "bottom point".

This process is then repeated to the distal segment.



Note: the software will adjust the correction to bring the two fragment markers into line through compression or distraction. Should the markers not meet the system will compress, and should they overlap the system with distract. The need for distraction or compression should be taken into consideration when planning the correction.

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The process is repeated with the M/L radiograph





#### Distraction and Rotation

Distraction	0	mm
When the defe	ormity cor	rection is complete, the X1,Y1 corresponding points will b
Rotation (to b	e 0.	C Internal Rotation
When the defa	armity con	External Rotation rection is completed the distal bone segment will be rotat
eye.		

The Deformity Parameter screen also allows the user to numerically select the amount of distraction and also any rotation that is required, be it clockwise or anti clockwise.

Note rotation is the movement of the distal ring relative to the proximal ring as viewed by the





#### **User Instructions**



- pe patient. Once all the desired information and correction has been completed by the user the data is uploaded by clicking "Save".
  - Once uploaded click "Next Step".

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#### Correction

The user enters the start date for callus distraction or deformity correction, along with the number of days that the user would like the correction to take place.

Click "Calculate and Save"

A warning message will appear. This is the last opportunity the user has to correct or adjust any of the information.

Select "OK" and the information is transferred to the server and the deformity correction calculated.

When the server has completed the calculation a strut length correction schedule will appear on the screen along with an animation of the correction in the A/P and M/L views.

The schedule can be printed off or e-mailed to the patient directly. The schedule will display the dates of adjustment and also highlight where struts will need to be exchanged for longer/shorter struts as part of the correction process.

#### Strut Replacement

During the course of treatment it may be necessary to exchange struts to accommodates



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changes in the ring to ring distance. Strut changes generally show on the treatment schedule "yellow" where struts of a longer working range are required and "blue" where shorter are needed.

#### Revision

If necessary during the treatment, it is possible the change the correction schedule. This may be due to over correction or the need for extra distraction.

On the Correction page select "Revision"

A warning message will appear

Select "OK"

A table will appear with a "0" highlighted. The user

1. Start		
Start 2 R	ngs and Struts 3	rame and Lengths
		Patient ( DEMO)
Creator : Demo 2		
Patient : DEMO2 DEMO3	ż	
Surgeon : Demo 2		
Case Name : Tibla #Rev1		
-		
Revision date:	a visit gen liter	
Creator	Case Name	Stage
Test Surgeon	Tibia #Rev1	******
Dama 3	Tibia	





#### **User Instructions**

is able to then select from which day they would like the revision to begin. The day appear on the far left hand column of the correction schedule.

The user selects the appropriate days and clicks "OK".

- The screen will then show the patients history;
- e the details of the case, the original treatment plan
- and the new program. The relative information on rings, strut sizes etc is automatically transferred.
   However the user is able to amend the information in a similar manner to that previously described.

_			J		-
				Test Surgeon   Enor.	Notice   Signoul
X rev	Parameter	8 5 1	hidormity P	arameters 6 Corr	ection
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pital	đ.				
ery Date	: 19/09/20	015			
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mity Side	e : ® Left Create D 28/05/2017	<ul> <li>Right</li> <li>Jate</li> <li>7 21:08</li> <li>5 12:14</li> </ul>		Revision Date 28/05/2017 21:08	Next Step 😦
mity Side	Create D 28/05/2017 15/09/2015	© Right Date 7 21:08 5 13:14		Revision Date 28/05/2017 21:08 15/09/2015 13:26	Next Step 😦
mity Side	Create D 28/05/2013	© Right Date 7 21:08 5 13:14		Revision Date 28/05/2017 21:08 15/09/2015 13:26	Next Step 🕢

#### Ordering Information

#### Smart Correction<sup>®</sup> Computer Assisted Circular Hexapod Fixator

#### Smart Correction®

Computer Assisted Circular Hexapod Fixator



00-9063-11 SC & Hybrid Ring Set



00-8103-10	Smart Correction & Hybrid Ring Tray	1
Aluminium Ri	ngs	
50-1012-10	Dual Hole Full Ring, 105mm inner diameter, Aluminium	2
50-1012-12	Dual Hole Full Ring, 120mm inner diameter, Aluminium	2
50-1012-13	Dual Hole Full Ring, 135mm inner diameter, Aluminium	4
50-1012-15	Dual Hole Full Ring, 150mm inner diameter, Aluminium	4
50-1012-16	Dual Hole Full Ring, 165mm inner diameter, Aluminium	6
50-1012-18	Dual Hole Full Ring, 180mm inner diameter, Aluminium	6
50-1012-19	Dual Hole Full Ring, 195mm inner diameter, Aluminium	4
50-1012-21	Dual Hole Full Ring, 210mm inner diameter, Aluminium	2

#### (out of tray options)

50-1012-22	Dual Hole Full Ring, 225mm inner diameter, Aluminium
50-1012-24	Dual Hole Full Ring, 240mm inner diameter, Aluminium
50-1012-25	Dual Hole Full Ring, 255mm inner diameter, Aluminium
50-1012-27	Dual Hole Full Ring, 270mm inner diameter, Aluminium
50-1012-28	Dual Hole Full Ring, 285mm inner diameter, Aluminium
50-1012-30	Dual Hole Full Ring, 300mm inner diameter, Aluminium

#### 2/3 Rings (out of tray options)

50-1017-10	Dual Hole 2/3 Ring, 105mm inner diameter, Aluminium
50-1017-12	Dual Hole 2/3 Ring, 120mm inner diameter, Aluminium
50-1017-13	Dual Hole 2/3 Ring, 135mm inner diameter, Aluminium
50-1017-15	Dual Hole 2/3 Ring, 150mm inner diameter, Aluminium
50-1017-16	Dual Hole 2/3 Ring, 165mm inner diameter, Aluminium
50-1017-18	Dual Hole 2/3 Ring, 180mm inner diameter, Aluminium
50-1017-19	Dual Hole 2/3 Ring, 195mm inner diameter, Aluminium
50-1017-21	Dual Hole 2/3 Ring, 210mm inner diameter, Aluminium
50-1017-22	Dual Hole 2/3 Ring, 225mm inner diameter, Aluminium
50-1017-24	Dual Hole 2/3 Ring, 240mm inner diameter, Aluminium
50-1017-25	Dual Hole 2/3 Ring, 255mm inner diameter, Aluminium
50-1017-27	Dual Hole 2/3 Ring, 270mm inner diameter, Aluminium
50-1017-28	Dual Hole 2/3 Ring, 285mm inner diameter, Aluminium
50-1017-30	Dual Hole 2/3 Ring, 300mm inner diameter, Aluminium







26

#### Ordering Information

Full Ring, 10	5mm inner	diameter, (	Carbon (	Compos	ite	
Full Ring, 12	omm inner	diameter, (	Carbon (	Compos	ite	
Full Ring, 13	5mm inner	diameter, (	Carbon (	Compos	ite	
Full Ring, 15	omm inner	diameter, (	Carbon (	Compos	ite	
Full Ring, 16	5mm inner	diameter, (	Carbon (	Compos	ite	
Full Ring, 18	0mm inner	diameter,	Carbon	Compos	site	
ull Ring, 19	5mm inner	diameter, (	Carbon (	Compos	ite	
Full Ring, 21	omm inner	diameter, (	Carbon (	Compos	ite	
ull Ring, 22	5mm inner	diameter, (	Carbon (	Compos	ite	
ull Ring, 24	0mm inner	diameter,	Carbon	Compos	site	
ull Ring, 25	5mm inner	diameter,	Carbon (	Compos	site	
ull Ring, 27	0mm inner	diameter,	Carbon	Compos	site	
ull Ring, 28	5mm inner	diameter,	Carbon	Compos	site	
Full Ring, 30	omm inner	diameter,	Carbon	Compos	site	

2/3 Ring, 105mm inner diameter, Carbon Composite
2/3 Ring, 120mm inner diameter, Carbon Composite
2/3 Ring, 135mm inner diameter, Carbon Composite
2/3 Ring, 150mm inner diameter, Carbon Composite
2/3 Ring, 165mm inner diameter, Carbon Composite
2/3 Ring, 180mm inner diameter, Carbon Composite
2/3 Ring, 195mm inner diameter, Carbon Composite
2/3 Ring, 210mm inner diameter, Carbon Composite
2/3 Ring, 225mm inner diameter, Carbon Composite
2/3 Ring, 240mm inner diameter, Carbon Composite
2/3 Ring, 255mm inner diameter, Carbon Composite
2/3 Ring, 270mm inner diameter, Carbon Composite
2/3 Ring, 285mm inner diameter, Carbon Composite
2/3 Ring, 300mm inner diameter, Carbon Composite

Small, Aluminium
Medium, Aluminium
_arge, Aluminium

## Ordering Information

# Smart Correction® Computer Assisted Circular Hexapod Fixator

#### Smart Correction®

exapod Fixator 🗧	Computer Assisted Circular Hexapod Fixate	or	Ordering Information
	00-9069-0	SC & Hybrid Fixator Set	
1	00-8109-0	Smart Correction Tray (empty)	1
6 12 18	50-1041-30	) Advanced Wire Clamp	10
6	50-1041-00	0 Wire Clamp	17
	50-1042-30	ว Advanced Screw Clamp	10
	50-1042-0	o Screw Clamp	15
	50-1051-00	0 Washer	60
	50-1052-0	1 Standard Nut	60
	50-1056-11	1 Easy Lock Screw Clamp, 1 Hole	6
	50-1056-12	Easy Lock Screw Clamp, 2 Hole	6
	50-1056-1	3 Easy Lock Screw Clamp, 3 Hole	6
	50-1056-14	4 Easy Lock Screw Clamp, 4 Hole	6
	50-1056-14	5 Easy Lock Screw Clamp, 5 Hole	6
	50-1053-12	2 Connection Bolt, Short, 12mm	50
	50-1053-16	3 Connection Bolt, Medium, 16mm	30
	50-1053-20	0 Connection Bolt, Long, 20mm	20
	00-5020-0	00 Wire Plier	1
	00-0082-0	)2 Wire Tensioner (bolt type)	2
	00-0034-4	10 Wire Cutter	1
	00-2050-1	.0 10mm Hex Bolt Wrench	4





00-8103-11 Strut Tray (empty)



0-1032-01	Dual Joint Express Strut, Extra Short (XS)
0-1032-02	Dual Joint Express Strut, Short (S)
0-1032-03	Dual Joint Express Strut, Medium (M)
0-1032-04	Dual Joint Express Strut, Long (L)
0-1032-05	Dual Joint Express Strut, Extra Long (XL)

#### out of tray options

2 1	
50-1032-06	Dual Joint Express Strut, Extra Extra Long (X(XL)
50-1032-00	Dual Joint Express Strut, Extra Extra Short (XXS)

## Dual Joint Struts ( out of tray options)

50-1031-00	Dual Joint Strut, Extra Extra Short (XXS)
50-1031-01	Dual Joint Strut, Extra Short (XS)
50-1031-02	Dual Joint Strut, Short (S)
50-1031-03	Dual Joint Strut, Medium (M)
50-1031-04	Dual Joint Strut, Long (L)
50-1031-05	Dual Joint Strut, Extra Long (XL)



Ordering Information			Smart Correction <sup>®</sup> Computer Assisted Circular Hexapod Fixator	
	00-2050-13	13mm Hex Bolt Wrench	1	
	00-2050-10P	10mm, Torque Wrench	2	
Land Land	50-1056-10	EasyLock drill guide	2	
	Out of tray opt	ions		
	50-1058-01	Cube, 1 Hole		
	50-1058-02	Cube, 2 Hole		
	50-1058-03	Cube, 3 Hole		
	50-1058-04	Cube, 4 Hole		
	50-1058-05	Cube, 5 Hole		
	50-1058-06	Sleeve		
<b>O</b>	50-1058-06	Set Screw, 6mm		
		Threaded Dada Communicate		
	50-1057-00	Threaded Rods, Sommillength		
	50-1057-80	Threaded Rods, 80mm length		
	50-1057-100	Threaded Rods, 100mm length		
	50-1057-120	Threaded Rods, 120mm length		
	50-105/-150	Threaded Rods, 150mm length		
	50-1057-200	Threaded Rods, 200mm length		
	50-105/-250	Threaded Rods, 250mm length		
	50-105/-300	Inreaded Rods, 300mm length		
	00-2033-15T	T Allen Wrench 3mm/150mm		
	00-9069-00	External Fixator General Instrum	ent Set	
	00-8109-00	External Fixator General Instrume	nt Tray (empty) 1	
	00-0022-00	Hammer (Light)	1	
	00-3321-20	Quick Release Drill Bit, 3.2x200mr	n 2	

Smart Correction<sup>®</sup>
Computer Assisted Circular Hexapod Fixator

	00-3323-20	Drill Bit, 3.2x
	00-3481-03	Drill Bit, 4.8x
	00-3483-28	Drill Bit, 4.8x
K.	00-0041-32	Drill Guide 3
	00-0041-48	Drill Guide 4
$\checkmark$	00-0052-40	Soft Tissue (
$\swarrow$	00-0052-60	Soft Tissue (
<	00-0052-100	Soft Tissue (
	00-0050-00	Trocar
	00-2035-15	Allen wrenc
<b>V</b>	00-2036-00	T-wrench fo
La construction of the second s	00-0130-13	Osteotome,
	00-0130-19	Osteotome,
	00-7057-00	2.0mm X 250
	00-0013-90	Depth Gaug
	00-0037-60	Low Profile I



## Ordering Information

2x200mm, Can.	2
3x280mm	2
3x280mm, Can.	2
3.2mm	2
4.8mm	2
e Guide, 40mm	2
e Guide, 60mm	2
e Guide, 100mm	2
	1
nch, 5mm/190mm	2
for Bone Screws	1
e, 13mm blade	1
e, 19mm blade	1
50mm Non-Threaded Guide Wire	4
uge, 4.5/6.0mm Range, 90mm length	1
e Rod Cutter, 6mm (modular handle)	1

# Ordering Information \_\_\_\_\_\_ Computer Assisted Circular Hexapod Fixator

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#### Bone Screws

Diameter	Shaft Length	Thread Length	Blunt Tip	Trocar Tip
	1000000	20mm	50-1084-102B	50-1084-102
	100mm	40mm	50-1084-104B	50-1084-104
		20mm	50-1084-122B	50-1084-122
٦		30mm	50-1084-123B	50-1084-123
5mi	120mm	40mm	50-1084-124B	50-1084-124
4		50mm	50-1084-125B	50-1084-125
		30mm	50-1084-153B	50-1084-153
	150mm	40mm	50-1084-154B	50-1084-154
		50mm	50-1084-155B	50-1084-155
	100mm	30mm	50-1086-103B	50-1086-103
	44.0	30mm	50-1086-113B	50-1086-113
	110mm	40mm	50-1086-114B	50-1086-114
		20mm	50-1086-122B	50-1086-122
	1200000	30mm	50-1086-123B	50-1086-123
	12011111	40mm	50-1086-124B	50-1086-124
		50mm	50-1086-125B	50-1086-125
	130mm	30mm	50-1086-133B	50-1086-133
	140mm	40mm	50-1086-134B	50-1086-134
		30mm	50-1086-153B	50-1086-153
	150mm	40mm	50-1086-154B	50-1086-154
		50mm	50-1086-155B	50-1086-155
		60mm	50-1086-156B	50-1086-156
	160mm	30mm	50-1086-163B	50-1086-163
_	10011111	40mm	50-1086-164B	50-1086-164
шш		20mm	50-1086-182B	50-1086-182
6.0		30mm	50-1086-183B	50-1086-183
	180mm	40mm	50-1086-184B	50-1086-184
		50mm	50-1086-185B	50-1086-185
		60mm	50-1086-186B	50-1086-186
	200mm	30mm	50-1086-203B	50-1086-203
		40mm	50-1086-204B	50-1086-204
		50mm	50-1086-205B	50-1086-205
		60mm	50-1086-206B	50-1086-206
		30mm	50-1086-223B	50-1086-223
	220mm	40mm	50-1086-224B	50-1086-224
	22011111	50mm	50-1086-225B	50-1086-225
		60mm	50-1086-226B	50-1086-226
		30mm	50-1086-253B	50-1086-253
	250mm	40mm	50-1086-254B	50-1086-254
		50mm	50-1086-255B	50-1086-255
	300mm	60mm	50-1086-306B	50-1086-306

HA coating is available for all the screws and "H" addition comes at the end of the part numbers like 50-108X-XXXHB or 50-108X-XXXH



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Notes \_

# <u>2 Correct</u>





Compatible





# www.click2correct.com



manufactured or distributed by



#### Response Ortho / USA 725 River Road, Suite 32-254 Edgewater, NJ 07024, USA Phone :+1 (201) 203 5773 Fax :+1 (201) 608 7169 e-mail: info@responseortho.com



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