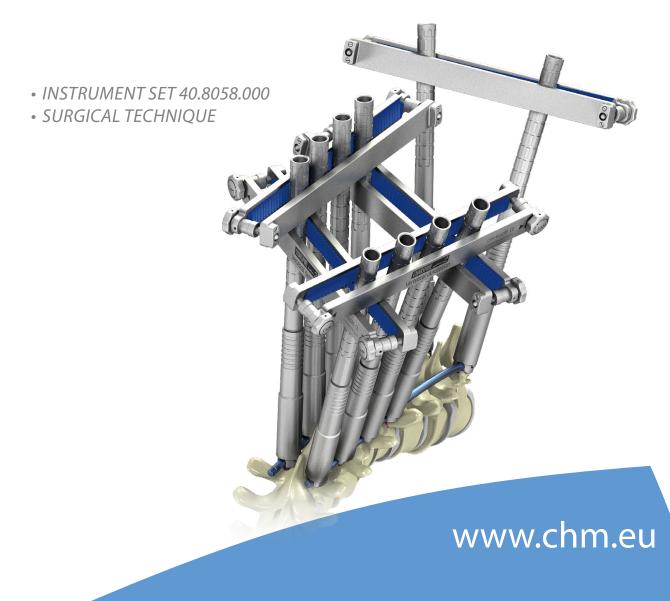
ChM®

# CHARSPINE June 2 CHARSPINE2 VD DIRECT VERTEBRAL BODY DEROTATION



#### SYMBOLS DESCRIPTIONS

	Caution - pay attention to the particular proceeding.
	Perform the activity with X-Ray control.
i	Information about the next stages of the proceeding.
	Proceed to the next stage.
$\bigcirc$	Return to the specified stage and repeat the activity.
	Before using the product, carefully read the Instructions for Use supplied with the product. It contains, among others, indications, contraindications, side effects, rec- ommendations and warnings related to the use of the product.
	The above description is not a detailed instruction of conduct. The surgeon decides about choosing the operating procedure.

# www.chm.eu

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Date of issue	05.06.2018			
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The manufacturer reserves the right to introduce design changes.				

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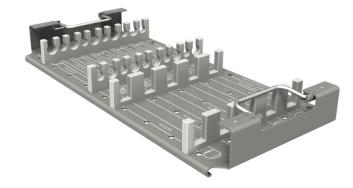
## **1. INTRODUCTION**

The **CHARSPINE2 VD** set of vertebral body derotation instrumentation, designed by the team of **ChM** specialists, has been developed to meet the challenges surgeons face in the treatment of complex deformations and to broaden the application of known and clinically proven **CHARSPINE2** bar stabilization system. The new system provides solutions to surgeons when treating spinal deformities (*scoliosis*). **CHARSPINE2 VD** utilizes the direct vertebral derotation technique that allows for three-dimensional correction of spinal disorders. The system consists of sleeves and clamps that can be combined into blocks in any way ensuring the most effective correction of deformity. The **CHARSPINE2 VD** instrument set has been especially designed for and is fully compatible with **CHARSPINE2** bar stabilization system.

# **2.** INSTRUMENTS

Instrument set for CHARSPINE2 VD vertebral derotation - 40.8058

	Name	Catalogue no.	Pcs
CLAMSPINE	Derotational clamp	40.6189.000	5
	Derotational sleeve	40.6188.000	10



Stand for instrument set for CHARSPINE2 VD

40.8059.000

1



All the other instruments (*except for the ones mentioned above*) described in this surgical technique are included in the instrument set for CHARSPINE2 spine stabilizer in the version [40.8060] or [15.0907.001].

## **3.** SURGICAL TECHNIQUE

#### **3.1.** SCREWS SELECTION

Surgical posterior approach to the thoracolumbar spine and instructions for transpedicular screws insertion have been described in a separate surgical technique No. ST/63 for **CHARSPINE2** thoracolumbar stabilization system.

The selection of appropriate screws is a key factor to ensure the success of the derotation procedure. Monoaxial screws guarantee the highest stability, however, due to possible difficulties with fitting the rod, polyaxial or uniplanar screws may be required. For scoliosis correction, the use of reduction screws should be considered since the screws significantly facilitate the bar placement.

The transpedicular screws should be inserted at each level of the concave site of the scoliosis, whereas on the convex side - the screws should be inserted at both ends of the scoliosis arch and at its apex.

#### 3.2. ROD CONTOURING

When all the screws are placed in the pedicles, use e.g. rod trial 6/300 **[40.5246.300]** to measure the length of the rod and define its required curvature. The trial is available as an additional accessory of **CHARSPINE2** system. Contour the rod with adjustable rod bender **[40.8074]** which is a standard instrument of **CHARSPINE2** system (*refer to* **CHARSPINE2** *surgical technique*).



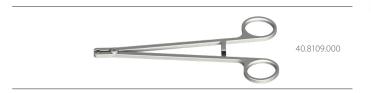
NOTE: To order the rod trial, contact your sales representative or ChM Sales Department.

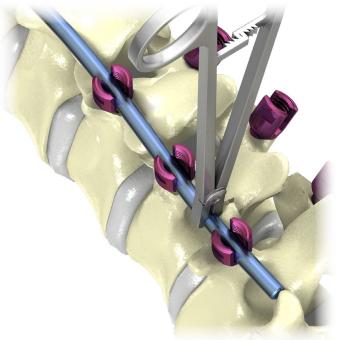
NOTE: Contour the convex rod with less kyphosis to push down on the convex side of the vertebral bodies, thus displacing them anteriorly and decreasing the rib prominence. Contour the concave rod with extra kyphosis to pull the apical vertebrae dorsally out of the chest, correct apical lordosis and decrease the rib prominence.



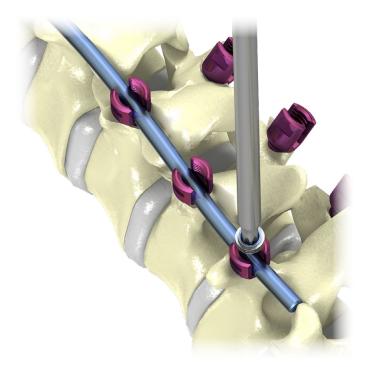
### 3.3. ROD FIXATION

The rod contoured as desired should be placed in the socket of the transpedicular screw. To do so, use pliers for rod **[40.8109]**.





Lock the rod using locking screw **[3.6160]** that should be placed in the head of the transpedicular screw.



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NOTE: The locking screw may be mounted on the screwdriver tip only from the upper side of the screw (the locking screw design eliminates any errors related to the mounting).



The upper surface of the screw is colour-marked for easier identification.

The locking screw is mounted on the tip of the screwdriver T30 **[40.8111]**, then it is inserted into the cut-out on the screw head and slightly tightened up in a clockwise direction. The inserted locking screw should allow the rod to move freely in the socket. Plies for rod and screwdriver T30 are included in **CHARSPINE2** stabilizer set.



Should it be difficult to press the rod to the screw cut-out bottom, use rod impactor [40.8068], fork persuader [40.8100], or screw persuader [40.8096] (*please, refer to* CHARSPINE2 *surgical technique*).





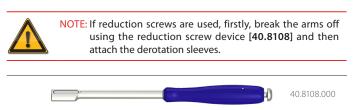
#### **3.4.** ROD ROTATION

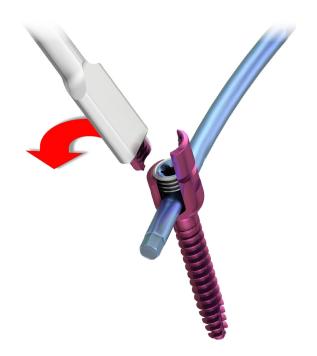
Having inserted locking screws, rotate the rods until they are positioned as intended in the sagittal plane. For rotation, use holding forceps (**[40.6202]** or **[40.4516]** depending on the instrument set version) that are a part of **CHARSPINE2** set. If the rod has original hexagonal ends, an eye wrench **[40.8069]** can also be used. Afterwards, pre-tighten the locking screws.





#### **3.5. DIRECT DEROTATION**

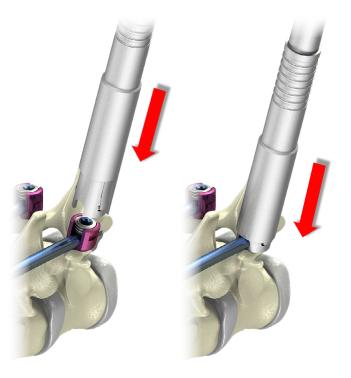




#### **3.6.** SEGMENTAL TECHNIQUE

Derotation should start from navigating the first neutral (*non-rotated*) vertebral body located below the deformity and the first rotated vertebra. Insert the derotation sleeves onto the above-mentioned transpedicular screws as illustrated. Install the derotation sleeve on the screw and then slide the outer sleeve down to lock the lock.

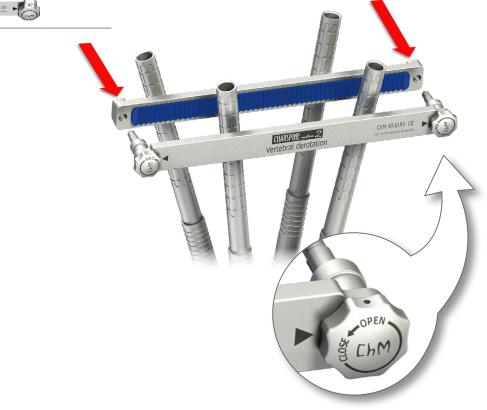
			40.6188.000
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The sleeves located on the same levels should be linked together with derotation clamps, creating two separate frames. The frames are put together as shown in the illustration.

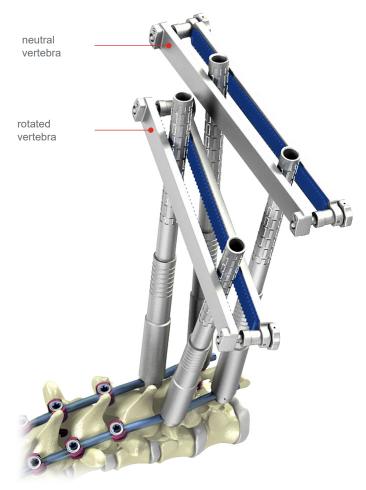




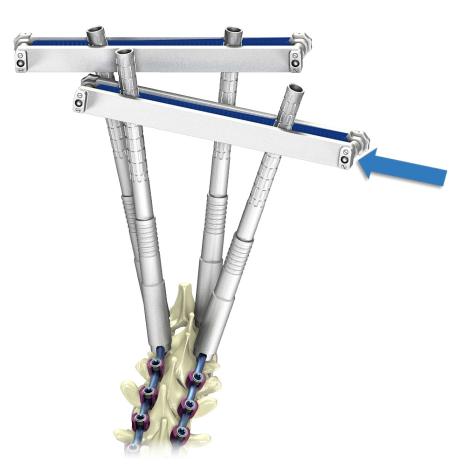


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Locking screws already inserted in the transpedicular screws of rotated vertebrae (*above the neutral one*) should be loosened, yet not completely unscrewed. Locking screws of neutral vertebrae must remain pre-tightened.



Afterwards, a direct derotation of the first rotated vertebra should be performed. The frame locked on the neutral vertebra will be the reference point for the rotated vertebra and will act as a counter force for forces occurring during derotation.



After derotation, the locking screws located in the rotated vertebra should be pre-tightened with screwdriver T30[40.8111].

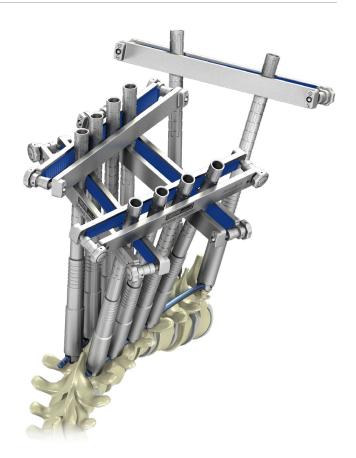


The rotated vertebra will now act as a neutral vertebra and the whole procedure should be repeated moving one segment higher.

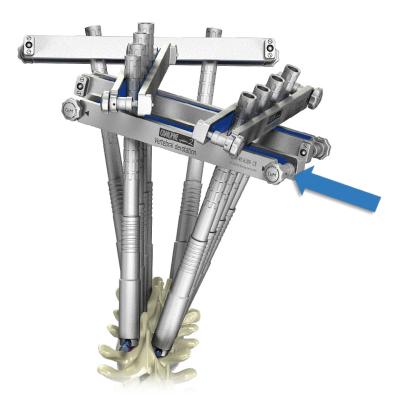


#### **3.7.** EN BLOCK TECHNIQUE

Derotation sleeves should be placed on deformity apical screws and on the first neutral (*non-rotated*) vertebra located below the deformity. The sleeves on the neutral vertebra are to be linked together with the derotation clamp to form a frame. The sleeves located on the rotated vertebrae should also be linked together with the clamp as illustrated, forming a single frame covering several levels. Locking screws should be loosened but not removed. The locking screws in transpedicular screws of the neutral vertebra should be pre-tightened.



Derotation is performed by turning the frame locked on the rotated vertebrae until reaching the neutral position. The frame on the neutral vertebra is used as counter force for the forces that occur.



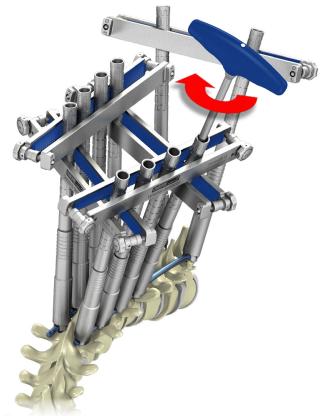


After performed correction, the locking screws should be pre-tightened with screwdriver T30 **[40.8111]**.



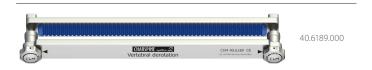
NOTE: To facilitate the derotation procedure, push down the rib prominence.





### **3.8.** FRAME DISASSEMBLY

To disassemble the frame, start by removing the clamps, turning one of the knobs counterclockwise. If clamp removal is not yet possible, unlock the other knob.

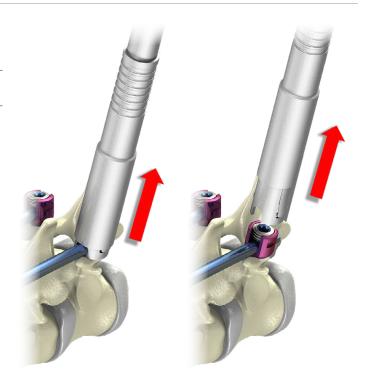


Should it be necessary to reassemble the derotation clamp on the sleeves, both parts of the clamp must first be completely disconnected. This will ensure that the locking mechanism functions correctly when reinstalling.



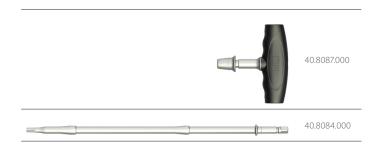
Then remove the derotation sleeves by sliding the outer sleeve upwards.

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### **3.9.** FINAL TIGHTENING

Tighten finally the locking screw with the help of T-type torque handle 12Nm **[40.8087]** and screwdriver tip T30 **[40.8084]**.





8 COMPATIBILITY

a high level of safety and accuracy of operation of a torque instrument, it is necessary to follow the calibration deadline which is marked on the device.

2.Instrument calibration is performed by the manufacturer. Any attempt of unauthorized modifications to the con-struction or factory setting of the torque devices can lead to a potential injury or damage to the product and is prohibited.

1.CM specialist instrument sets are designed for insertion of ChM implants. A specific, illustrated operating technique that describes the proper use of instruments included in the instrument set that is designed for particular implant system, is provided together with such instruments to this character to the character of t

If this instructions appears unclear, please contact the manufacturer, who shall provide all required ex-

SYMBOL TRANSLATION • OBJAŚNIENIA SYMBOLI • ПОЯСНЕНИЕ ОБОЗНАЧЕНИЙ • EXPLICACIÓN DE LOS SÍMBOLOS • SYMBOLERKLÄRUNG • SYMBOLY PŘEKLADY • TRADUZIONE SIMBOLI

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Manufacturer: ChM sp. z o.o. Lewickie 3b, 16-061 Juchnowiec K., Poland tel.: +48 85 86 86 100 fax: +48 85 86 86 101 e-mail: chm@chm.eu www.chm.eu

при повреждённо beschädigt ist • Net

Do not reuse • Nie używać powtórnie • Не использовать повторюо • No reutilizar • Nicht wiederverwenden • Nepoužívejte opakovaně • Non riutilizzare

Do not resterilize • Nie sterylizować ponownie • Не стерилизовать повторно • No reesterilizar • Nicht resterilisieren • Nepouživejte resterilizaci • Non risterilizzare

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Do not use if package is damaged - Nie używać jeśli opakowanie jest uszkodzone - Не использов. при повреждённой упаковке - No utilizar si el envase está dañado - Nicht verwenden falls Verpa beschädigt ist - Nepoužívejte, pokud je obal poškozen - Non utilizare se la confezione é dannego

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IFU-I-001/06.18; Date of verification: June 2018

, Updated INSTRUCTIONS FOR USE are available on the following website: www.chm.eu

## **4.** INSTRUCTIONS FOR USE

#### (GB)

## CE Manufacturer: ChM sp. z o.o. Lewickie 3b, 16-061 Juchnowiec K., Poland tel.: +48 85 86 86 100 fax: +48 85 86 86 101 -mail: chm@chm.eu www.chm.eu IFU-I-001/06.18 97 29 // De B

#### (GB)

#### INSTRUCTIONS FOR USE **REUSABLE ORTHOPAEDIC** AND SURGICAL INSTRUMENTS

1 INDICATIONS Surgical and orthopaedic instruments are intended for use only by skilled and trained medical professionals who are familiar with their use and application.

#### 2 DESCRIPTION

- 1. The unit package contains one piece of the product in non-sterile condition. Clear plastic bags are a typical packaging material. The products may also be supplied as a complete set (arranged on palettes and placed into specially designed sterilization containers). This Instructions For Use is attached both to the unit packages and the set of the set of the set of the unit package and the unit packa specially designed semilation containers). This instructions For Use is attached both to the unit packa the sets. 21 he package is equipped with the product label. The label (*as a primary label*) contains, among others: 1) logo OM and the address of the manufacturer. 2) Catalogue number (*BEF*) e.g., 40,0000, XOX, and device name and size. 3) Production back number (*DT*) e.g., 40,0000, XOX, and device name and size. 3) Production back number (*DT*) e.g., 40,0000, ADX (*as a constant set of the package o*

- 3.Depending on the size or type of the product, the following information may be marked on its surface: manu-facturer's logo, production batch no. (107), catalogue no. (REF), type of material and device size.
- 3 MATERIALS
- Taor the production of instruments, CMM sp. z o.o. uses mainly: steel, aluminum alloys and plastics, approved for use in surgical instruments and in accordance with applicable procedures. Distruments are produced of corrosion-resistant steel. The protective layer (*passive layer*) against corrosion is formed on the surface of the device due to high content of dromium. 2.Instrum
- Tormed on the surface of the device due to high content of driomium. J Devices produced of diaminitum are mainly stards, paletics, votets and some parts of instruments such as e.g. handles. The protective oxide layer which may be dyed or staps in natural colour (*silvery-grey*) is formed on the aluminium as an effect of deettochemical tratement of its surface. 4D evices made of aluminitum with processed layer have good corrison resistance. However, the contact with strong alkaline dening and disinfecting agents; Solutions containing lodine or some metal safts, due to chemi-cal interference with the processed aluminium surface, shall be avoided.
- can interference with the processed alumnifus any arrade, shall be avoided. 5 Devices produced of plastics are mainly stands, paletesc, courtes and some parts of instruments such as e.g. handles. Plastics used in the manufacture of instruments are mainly. PSUI *Phythenydullinon*, PER *(Phythenethydullinon*), PER (Phythenethydullinon), PER (P
- processed (worked, deemed sterliked) at temperatures not higher than 140°C. They are stable in aqueous solu-tion of washing-disinfecting agents with a pel value from 4 to 10.8. 6.Steel surgical instruments with a hademed insert are none durable than steel products. The advantage of the product is the sintered cathole insert placed in the working part of the instrument. This insert is characterized by great hardness and abrasion restance. 7.Jf the material of the device cannot be specified, please contact CMM sp. z.o.a. representative.

#### 4 WARNINGS AND PRECAUTIONS

- 1.Instruments are intended for use only by skilled and trained medical professionals who are familiar with their use and application.
- use and application. Lipmopper, carefees and inconsistent with the recommendations provided below handling of the instruments can lead to their chemical, electrochemical or mechanical damage which can adversely affect corrosion resistance and shorten the review life of the devices. Linstruments are intended only for specific procedures and must be used stirctly according to their intended pur-pose. Use of instruments not in accordance with their intended purpose may lead to malfunction, accelerate wear and, in consequences, damage to the instrument.

- wear and, in consequences, damage to the instrument. A the surgeon should be familiar with all components of the device before use and should personally verify if all components and instruments are present before the surgery begins. Selerice the proceeding begins and instruments should be activately inspected for their condition and proper func-tioning. They should be undranaged and without any signs of comosion. Radies and cutting edges should be sharp and undranaged. Barnaged or corroded instruments should be activated damaged or corroded instruments is not allowed. This and provides to the accurate the surgery should be immediately replaced. The use of bent, damaged or corroded instruments is not allowed.

- damaged or comodel instruments is not allowed. 6 lixue structures does to the operative site must be protected. 7.Collision of the instrument with metal operating equipment, retractor or other device may cause damage that necessitate introparetive reglacement of that instrument. 8.Do not apply crecisive force when using the instrument it may lead to its permanent damage and, in conse-quences, ion-likution of the device. 9.Instruments are subject to contant wave processes. While rate, intraoperative facture or beakage of the instru-ment can occur. Instruments with habe here subject to contant wave processes. While rate, intraoperative facture or beakage of the instru-ment can occur. Instruments with habe here subject to contante or procedures performed. Should brokage occur, the instrument parts must be removed and disposed of immediately in accordance with valid medical facility procedures. Parts must be removed and fagments from the surgical field, intraoperative X-Ray examination is recommended.

- examilation is recommended. 11. In the case of suppertend or documented allergy or intolerance to metallic materials, surgeon shall find out if the patient develops allergic reaction to the instrument material by ordering appropriate tests. 12.1t is currenely important to follow the calibration deadline which is permanently marked on the torque instru-ments (see CLARMOV). Use al oracine instrument with an overstepped calibration date may lead to potential injury, implant or device damage, or loss of correction. If there appear any inregularities in device operation, e.g. due to heavy uses prior to next calibration date, the instrument should be immediately sent to the manufac-turer for its re-calibration.
- tuere for its re-calanctaton. 31 Instrument which had contact with tissues or body fluids of another patient cannot be re-used prior to its repor-cessing due to a potential risk of cross-infection caused by viruses, bacteria and prions. 14 Middle and working part of the surgical devices with hardened insert shall be used during the surgical procedure. Improper or inconsistent with the intended purpose usage of the product may lead to damage of the working part e.g. damage to the inserts.

#### 5 CLEANING, DISINFECTION, STERILIZATION

- 5 CLEANING, DISINFECTOR9, STERILIZATION D'Intor tous ef a non-settiel device, the following nules apply: 1) The device must undergo cleaning, disinfection and sterilization procedures. 2) Effective cleaning is a complicated procedure depending on the following factors: the quality of water, the type and the quantity of used detergent, the technique of cleaning *finanual automated*, the proper stringsid and drying, the proper perparation of the device, the time, the temperature and carefulness of the person conducting this process, etc. 3) The hospital facility remains responsible for the effectiveness of the conducted cleaning, packaging and stre-lization processes with the use of existing equipment, materials and properly trained personnel. 2. Preparation at the bace of use. 1) Immediately after use, remove from instrument blood and other contaminants with disposable cloth or pa-per towesh. Additionally, it is commoned to more the instrument tuder runny water or to place it in the aqueous disinfictant sublicin. Do not let blood, tissues, body fluids or other biological impurities dry out on the surface of the device.
- the surface of the device. 2) In order to prevent blood and debris from drying out on the instrument surface, transport the product to the

- processing area in a closed container or covered with a damp cloth. 3) In order to avoid contamination during transportation, the dirty instruments should be separated from the

- (3) In OBET to environ unterministration target summarized and the second se mation contained in the instructions prepared by the manufacturer or the agent, in respect or temperature, con-centration, exposure time and water quality). 4) CAUTION: It is forbidden to use brushes made of metal, bristles or materials which could damage the product.
- Deaning and disinfection process. 1) This Instructions for Use describes two CMM-approved deaning and disinfection methods: manual with ul-tracound deaning and automated method. It is recommended to use automated deaning and disinfection procedures (in a washer-disinfector).
- processures (in a wouter-assimction), 20 The chosen waking and disinfecting agents must be suitable and approved for use with medical devices. It is important to follow the instructions and restrictions specified by the producer of those dearing agents. It is recommended to use aqueous solutions of waking-distincting agents with mit apit value between 10 A and 10.8. CM used the following materials during the validation process of the described recommendations for dearing and distinction. It is allowed to use other materials than throe list behow which may also give a

- clearing and admitted in its allowed to use other materias than those listed below which may also give a comparable effects (producer) neodisher<sup>4</sup> MediClean forte (name of the detergent); b) disinfectant Neivejert (noducer) neodisher<sup>4</sup> Septe (New (name of distinctant). 3) To prevent product damage (pitting, nat, discolaration), do not use aggressive cleaning agents (NaOH, NaOCI), saline solutions and unsuitable cleaning agents. 4) Where possible, it is recommended to use deminealized water to avoid the formation of spots and stains caused by chlowles and other compands present in ordinary water. 5) Manual with ultrazound cleaning.
- Manual with ultrasound deaning. Equipment and materials: a device for ultrasound deaning, soft, lint-free cloths, plastic brushes, syringes, aquecus solutions of cleaning agent. Manual cleaning: Initial manual cleaning must be performed prior to ultrasound cleaning. Rinse under running water until the product is visually clean. Use plastic brushes to remove heavy or large debris.
- derin: (J) Sak the product for at least 10 minutes in an aqueous solution of a detergent at temperature of 40+/-2°C and p4 of 10.4-10.8 (follow the information contained in the instructions prepared by the manufacture of the agent, in respect for dimensionar, constrained and water quality).
  e) Rinse the product under cold water for at least 2 minutes, paying particular attention to the holes and places withfinish the values.
- cult to be cleaned. f)
- g)
- h)
- Thiss: the productions: Contention of the content in the content of the content of the content proce-difficult to be cleaned to the content of the content i)
- j) k) Visually ins

- difficult to be cleaned. Visually inspect the entire surface of the product for debias and impurity. Repeat the steps described in sub-tive demineralized water for final innoval of the device. Day the device thoroughly using disposable, soft, line free (oth or compressed air. Perpare an aqueous solution of distriction gapet at a temperature d 20+/-2 Y using 20g of the aquent per 1 litre of water, Immerse the product in the solution, exposure time 15min (follow the information notanies di the instructions perpared by the manufacture or of the agent, in respect of temperature, concentra-tion, apposure time and water quality). Mart the exposure time, rinse the product thoroughly under demineralized water, paying particular atten-tion to holes and places difficult to be cleaned. 0)
- the of the low and preservation of the second secon
- c. ect the entire surface of the device.

- Yusually inspect the earlie surface of the device.
   GUIIDIG If the obstruction in the cannola cannot be removed as indicated in the Instructions for Use, the device should be considered at the end of its useful life and should be discarded in accordance with facility procedures and guidelines.
   The automated method using a washer disinfector, automated and metanids a vasher disinfector, automated and metanids avasher disinfector, a cannot and metanids avasher disinfector, a cannot be metanide avasher disinfector, a cannot be metanide avasher disinfector, a cannot be metanide avasher disinfector, a cannot be equipment used for washing distinctions should meet the requirements of 150 15883. Pro-cedure of washing in the washer–disinfector shall be performed according to internal hospital procedures, recommendations of the washer–disinfector manufacturer, and instructions for use prepared by the wash-in--disinfecture.
- recommendations of the washer-disinfector manufacturer, and instructions for use prepared by the wash-ing-disinfecting again tamufacturer. The device should undergo the process of machine washing in the washer-disinfector user washing in the following cycle parameters (7) per washing in ord talg waster, duration Tomir, (2) washing in an diputous sour-tion of chaning agent at 55+/-22 rad pl of 10.4 10.8, duration Tomir, (2) mixing under demineral-ies dwaster, duration Tomir, (4) thematical waster at any CPC, mixing all duration Smir, (5) drying at the temperature ranging from 50°C to 110°C, duration 40min.
- 1) Each time before re-use and re-sterilization, all medical devices should be inspected.
  2) All parts of the product should be checked for visible dirt and corrosion. Particular attention should be paid to:

- All parts of the product should be checked for visible dirit and consoine. Particular attention should be paid to: ) folds:, groves and ages the debits outline have been pressed into during use. ) Places where dirit can be found, such as joints, latches, etc. Generally unmangride visual inspection under good light conditions is sufficient. Each time before re-use and re-sterilization, the functional check of the product should be performed, consist-
- ing or: Verifying the connections in the mating instruments, such as tips, shafts and quick coupling devices.

- <sup>1</sup> Verifying the connections in the mating instruments, such as tips, shaft and quick coupling devices.
   <sup>1</sup> Verifying the connections of the mating instruments, such as tips, shaft and quick coupling devices.
   <sup>1</sup> Verifying all rotating devices for strabilitiess, (this can be simply achieved by rolling the device on a flat surface).
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   <sup>1</sup> Verifying a time devices for strabilitiess.
   <sup>1</sup> Verifying instruments for damage to material structure (racks, dents, peed, etc.).
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   <sup>1</sup> Verifying instruments for damage to material structure (racks, dents, peed, etc.).
   <sup>1</sup> The CM By, z.o., does not define the maximum number of uses appropriate for re-usable medical instruments. The usable life of the educed so many factors including the method and duration of educes, use, and the handling between uses. Carbul and proper use reduces the risk of damage to the product and tectrads its servicus bit life.
   <sup>1</sup> The CM By and the radia struments and the product and the structure dees not recommend using any preservatives on medical devices.
- .Packaging 1) Washed and dried devices shall be stored (*if possible*) in suitable stands placed in special sterilization cont erx<sup>-</sup> Senarate items should be packed in a packaging intended for the recommended steam sterilization. S walete and recoverces sinal or source infloxosor in studied status paces on special semication contain-ess. Separate litems should be packed in packaging intereded for the recommended status metrilization. Standards: The packaging procedure must be performed in controlled putty conditions. The device must be packed so that during its removal from the packaging, when used, there is no risk for its re-contamination epication. 7.Sterilizat
- Sterinization 1) Washed, disinfected, and dried device shall undergo the sterilization process. The recommended method of sterilization is vacuum-type steam sterilization (with water vapor under overpressure): a) temperature 13-4C, b) minimum drying time: 7 min, c) minimum drying time: 20 min. ) / CAIITION

- c) minimu
   2) CAUTION:
- a) The sterilization EN ISO 17665-1. b) Sterilization n process must be validated and routinely monitored in accordance with the requirements of
- EN ISO 17665-1.
   Sterilization must be effective and in accordance with requirements of the EN 556-1 standard to ensure the
   required level of guaranteed sterility SAL 10° (where SAL stands for Sterility Assurance Level).
   Device must not be sterilized in the packaging in which it was delivered, except specially designed steriliza-
- bit on containers.
   d) The method of sterilization using ethylene coide, gas plasma and dry heat should not be used, unless the instructions for Use for the poduct contains sterilization commendations using these methods.
   e) The sterilization temperature for plastic products (*PPSU*, *PEEV*, *PTFE*, silicone) cannot be higher than 140°C.
- 6 STORAGE
- The devices should be properly stored. When storing surgical instruments, it is recommended that they never be stacked together. It may lead to damage of attiting edges *inicia or dull* and/or initiation of corrosion centers. Instruments should be stored in a clasm ddr yrom, at room temperature and off the direct smallpill. If *pos-*sible, instruments should be stored in suitable palettes placed into specially designed sterilization containers. 7 CALIBRATION Regular calibration is required in case of torque wrenches, handles and connectors. Torque instruments ar tory-calibrated, the nominal torque of a calibrated instrument is marked on the device (e.g. 4 Nm). To mai

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