TiA RAPID®

It's firm, it's safe, it's RAPID.

patented

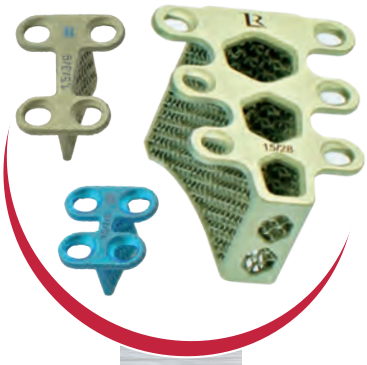
Special Thanks to Dr. Yves Samoy

RITA LEIBINGER MEDICAL

TTA RAPID

More than 60,000 successful surgeries worldwide

The VCOT Magazine published 2019 a new study comparing TTA RAPID with TPLO. It finds plenty of results which speak in favor of TTA RAPID.
But please read yourself: In the following chapter you find the complete title of the study and where you can find it.



More than 50 different cage sizes

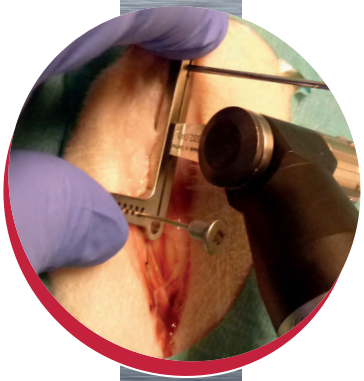
With 54 different cage sizes, TTA RAPID is the most flexible surgical technique designed to repair a cruciate ligament injury.
The new "Tiny" TTA RAPID set now makes it possible to treat small dogs and cats with custom 1.5/2.0mm cages and screws. The instrumentation set features a new "tiny" sawguide.
Tiny TTA RAPID is designed for tiny animals – especially cats, toy breed dogs and dogs with short legs that need a wide advancement. The tiny sawguide allows for short osteotomies.
TTA RAPID now offers 5 different spreaders and 3 different sawguides – a solution for every need: from small to giant breeds. The overall investment for the technique is minimal because there are limited special instruments required.

Rapid Healing + Short Surgery Time

TTA RAPID implants offer high stability with a less invasive approach. The TTA Rapid surgery allows for shorter surgery times which provides less of a risk of infection, less anesthesia and less costs.
The open sponge Titanium construct allows for rapid bone growth throughout the cage.

Patella Luxation + CCL Rupture

TTA RAPID is extremely effective for a patellar luxation in combination with a cruciate ligament rupture. The uniquely designed Tibia Tappet allows you to move the tibial tuberosity very accurately and test functionality of the new position during the surgery, before fixating the screws.
Once you have reached the desired position, you can fixate with the patellar spacer and screws.



Minimal Learning Curve

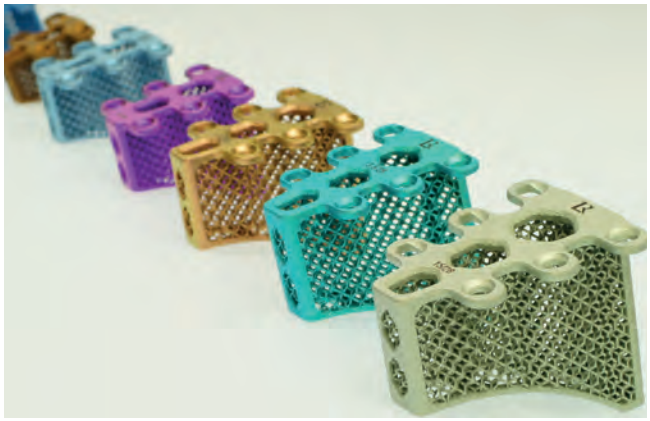
Due to the simplicity of the technique and instruments, a level of comfort can be achieved quickly.

rapid.leibinger.vet

TTA RAPID ®

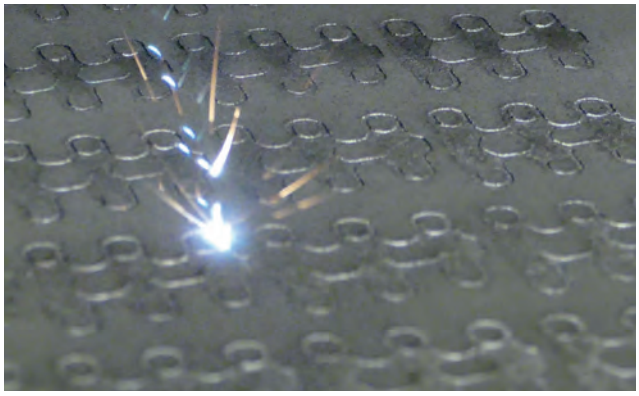
Tibial Tuberosity Advancement (TTA) as a technique for the surgical management of cranial cruciate ligament insufficiency has gained increasing acceptance and popularity in recent years. As we learn more, efforts are being made to simplify the technique, to make it more user friendly and overcome some of the pitfalls of the original technique. Developed in collaboration with Dr. Yves Samoy, University of Ghent, TTA Rapid is one of the newer developments in both implant technology and technique.

The Implant

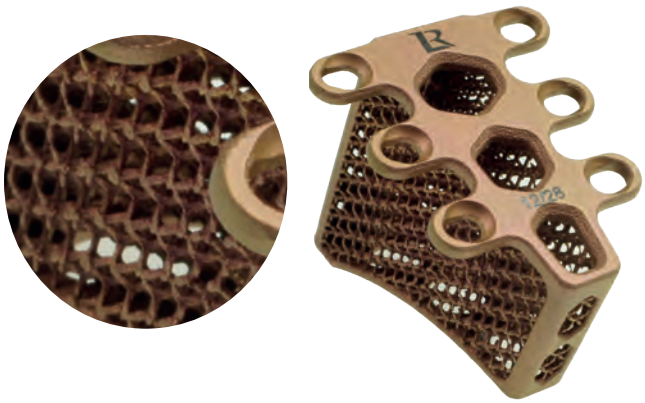


The manufacture of TTA Rapid cages has only been made possible with advances in materials and manufacturing technology. The cages are made by an additive manufacturing (AM) 3D printing process known as selective laser sintering (SLS). The process is interesting to watch. Although other materials can be used in the process, TTA Rapid cages start life as a very fine, commercially pure titanium powder. A very thin layer of titanium powder is deposited on the working bed of the SLS machine and a modified print head carrying a high intensity laser is used to selectively melt the powder to bond (sinter) regions together. As further layers of powder are applied and the laser sintering process repeated, a solid three dimensional structure begins to form within the 'sand-pit' of metal powder. Electron beam melting (EBM) is a similar procedure that uses an electron beam instead of a laser.

Once the full structure has been created, the cages are separated from the powder and various chemical and other finishing processes are performed to leave the cages in their final, implantable state. Through this process, shapes can be created that would either be impossible to produce using more conventional technologies or cost prohibitive. In the case of TTA Rapid, a very porous honeycomb titanium lattice with a modulus similar to that of cancellous bone is generated permitting very rapid bony ingrowth to occur. Titanium is also very biocompatible, MRI compatible and typically needs to be inoculated with 10 times as many infectious units for an implant associated infection to develop when compared to stainless steel.



The lattice found in the TTA Rapid cages is bound on 4 sides



by an anatomically shaped, rigid shell of the same material with one side carrying lugs with screw holes in them. With the lattice, cage and screw lugs being one piece, the cages are very stable in situ.

The constructs are so stable that auxiliary implants such as plates, wires, forks and staples are rarely indicated. This has a number of benefits:

- Reduced morbidity and biological cost that may be associated with the dissection and placement of additional implants.
- Reduced potential for cold conduction with superficially sited metallic implants.
- Fewer additional holes created in the tibial diaphysis which may contribute to crack propagation and failure of the tibial shaft.
- Metals of different electro-potentials are avoided in the same construct. Theoretically this reduces the potential for galvanic corrosion to occur (all components are titanium).
- Simplified inventory management.
- Potential time savings in the placement of implants.

Caution: TTA Rapid patients are often subjectively more comfortable in their early post-operative recovery than many patients undergoing other osteotomy surgeries. TTA Rapid still involves a major osteotomy and both appropriate patient selection and appropriate client education for post-operative management are indicated.

TTA RAPID ® Technique

The dog is placed in a dorsal recumbency with the affected limb suspended from a stand. Make sure that the dog's paws are not fixed too tightly, since the affected limb will be put against the table later in the surgery. Preferably, the joint is investigated to assess the menisci and cranial cruciate ligament remnants. Remedial action is taken as necessary. TTA-Rapid is performed through a medial skin incision.

01 Pre-operative planning

a. Calculating the advancement can be done in different ways (classic TTA template; common tangent technique (Dennler); 2.07 x Tibial plateau Length (Inauen); Ness; …). However, none of these techniques are perfect. A critical mind is advised when applying those measurements.

b. Use of the template:

1. Where possible, calibrate the radiograph on the screen to real size.

2. Place the template over the radiograph and choose the appropriate cage width.

3. Adjust the template position until the cage sits about 3mm below the proximal cortex on its caudal edge. Now measure the thickness of the cranial tibial cortex in the region of the black dot. Note this value; you will need it during surgery.
XX / YY/ Z
XX = Size of Implant from Template
YY = Implant deep (you find out, after the saw cut)
Z = thickness of the cranial tibial cortexin the region of the Maquet hole

02 Joint surgery

a. If performing a lateral arthrotomy, leave about the last centimeter of the joint capsule closest to the tibia open. This allows enough slack to later perform the advancement.

03 TTA-RAPID protocol

a. Using the saw guide

The saw guide is an L-shaped device developed to facilitate the correct position of the osteotomy. It has been developed to ensure a sufficiently large cranial fragment is created for screw placement. The vertical arm of the guide has 2.5mm holes placed at strategic points, over a 1mm wide slot. The numbers beside the holes correspond with the size of the cage. This will prevent making a too distal osteotomy. The horizontal arm of the guide is a scale in millimeters. This will prevent making a too caudal osteotomy.

Sawing the crista tibiae

1. A 2.5mm pin is placed through the joint capsule at the intersection of the femoral condyle and the tibial plateau. On the lateral side, the pin should start slightly in front of the level of “Gerdy‘s Tubercle”. This pin is used as the proximal fixation of the saw guide.

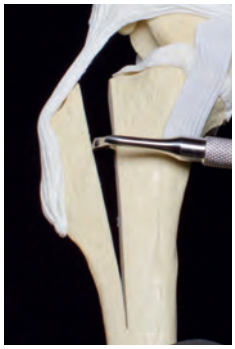
2. The guide is dropped over the pin using one of the numbered holes in the vertical arm, corresponding with the size of the cage measured during pre-operative planning.

3. A peg is placed into one of the holes in the horizontal arm of the drill guide, selecting the number of millimeters measured during pre-operative planning.

4. Press the saw guide against the medial aspect of the tibia with protruding peg forced up against the cranial side of the tibia. Hold it in that position. Correct use of the saw guide will place the osteotomy just caudal to the cranial cortex of the tibia. (As a guide: In a large dog the cortex is approximately 5mm thick and in a small dog approximately 3mm.)

DO NOT PRESS THE HORIZONTAL ARM AGAINST THE BONE, AS THIS WILL CAUSE AN OBLIQUE OSTEOTOMY!

5. Use the saw guide to create the osteotomy. Optionally, a blade can be used to open the fascia/periostium prior to the osteotomy.



b. Opening the osteotomy

1. Depending on the required cage size, different osteotomy spreaders can be used to spread and hold open the osteotomy. Provided this is done carefully and slowly, allowing the bone time to adjust, the hinge is unlikely to fail. This being the most critical point of the surgery, the spreaders should be used with great caution!

2. Start with the 3mm spreader held sideways (thinnest part) located at the most proximal part of the osteotomy and gently turn it to spread open the osteotomy. Always turn the spacer downwards to minimize the forces on the fragment. A second spacer/spreader held sideways in the distal region of the osteotomy can be used to maintain the displacement.

CAUTION: DO NOT USE THIS 2ND SPREADER TO INCREASE THE DISPLACEMENT, AS THIS WILL CAUSE BREAKING OF THE CORTEX!!!

Repeat these steps until the required displacement is reached.

3. The depth of the osteotomy is measured with a drill depth gauge at the proximal extent of the osteotomy. This measurement is rounded up to select the correct cage Length.

c. Fixating the cage
1. The ears of the cage need to be bent using the bending stick. Ears on the caudal side (tibia) should point slightly upwards, while the ears on the cranial side (crista tibiae) should be tilted slightly downwards. Slight under-bending of the caudal ears and slight over-bending of the cranial ears will help compress the osteotomy against the cage.

2. Elevate the periostium from the bone in the region where the cage will be fixed.

3. Insert the cage into the osteotomy. Use bone Forceps to make sure the ears of the cage are in close contact with the bone.

4. Once the cage is in place, check if the height of the cage is correct. This can be done by palpating the proximal tibia with the tip of a small mosquito clamp. You should feel about 3mm of bone above the top of the cage. More bone means a more distal placement of the cage and thus subsequently a more cranial displacement of the tibial tuberosity.

5. Large bone Forceps can be used to give extra compression on the cage. This step is not essential if the distal cortex is still intact, but will result in a better bone contact with the cage.

6. 2.4mm screws are inserted into the cage. Start with the most cranial, most proximal screw. The orientation of the screws should be medio-proximal to latero-distal (similar as the orientation of the fork in a standard TTA).The second screw is the caudo-proximal screw. The orientation of this screw is cranio-medio-proximal to caudo-latero-distal ("Away from the joint, away from the osteotomy site"). The rest of the screws are placed in the same fashion starting with the most proximal screws.
Once all screws are inserted, remove the bone Forceps and re-tighten all screws.

7. Insertion of Hydroxy-Apatite paste inside and underneath the cage will accelerate healing of the osteotomy. Close the fascia where possible.
8. Close the wound in a routine fashion.

d. Aftercare

1. Casting/bandaging is generally not required.
2. A light dressing can be applied for 3 to 5 days.
3. NSAIDs are provided for 3 to 4 weeks.
4. With HA paste, clinical union can generally be anticipated within 6 weeks.

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Faculty of Veterinary Medicine, Ghent University

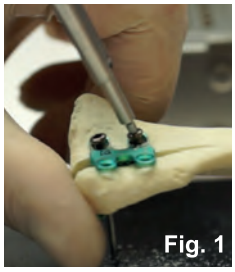


Fig. 1

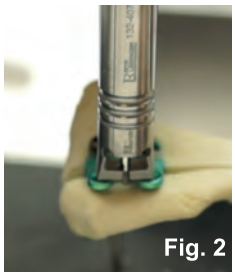


Fig. 2

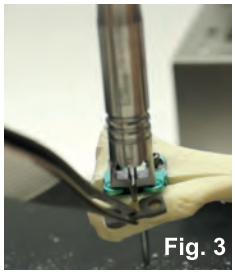


Fig. 3

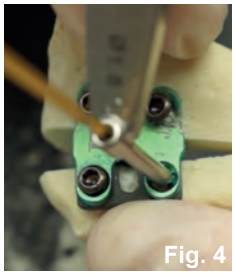


Fig. 4

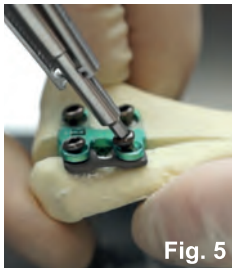


Fig. 5


Fig. 6

TTA and Patella Luxation (TTTA)

Dr. Hugo Schmökel

When a dog suffers from a cranial cruciate ligament rupture with a simultaneous patellar luxation, this can be addressed with a modified TTA Rapid procedure. Prior to the TTA Rapid surgery itself, it should be determined if the dog would benefit from a trochleoplasty. If so, this should be performed before the actual TTA Rapid procedure(1).
The osteotomy used for the TTA Rapid procedure can also be used to achieve a medial or lateral tibial tuberosity transposition (TTT), depending on the kind of patellar luxation. The further described procedure focuses on a lateralization of the crest, needed for the correction of a medial patellar luxation
After performing the osteotomy, the appropriate cage is inserted into the osteotomy and all of the caudal screws are inserted in the tibia (Figure 1). Take care to choose a cage that has a bigger medio-lateral Length than measured after the osteotomy, as both cortices of the transposed crest need to be supported! Usually, the longest cage is advised.

Consecutively, the tibial crest is slightly advanced, so that itcan be moved laterally with the tibia tappet instrument (Fig 2).

Be very careful performing this and restrict the advancement to the absolute minimum to avoid crest avulsion.
Once the desired position is reached, a corresponding washer is placed between the crista tibiae and the ears of the cage (Figure 3). If the transposition is sufficient to prevent dislocation of the patella, the remaining screws are inserted and the operation finished as described (Figure 4 and 5).

In case of a a lateral luxation, the tibial crest is shifted medially in a similar manner after fixating the cranial part of the cage in the tibial crest.

1. Samoy Y, Verhoeven G, Bosmans T, Van der Vekens E, de Bakker E, Verleyen P, et al. TTA Rapid: Description of the Technique and Short Term Clinical Trial Results of the First 50 Cases. Vet Surg. 2014:n/a-n/a.

Studies about TTA RAPID

TTA Rapid: Description of the Technique and Short Term Clinical Trial Results of the First 50 Cases

Ghent University, Faculty of Veterinary Medicine, Department of Veterinary Medical Imaging and Small Animal Orthopaedics
Yves Samoy1, DVM, PhD, Geert Verhoeven1, DVM, PhD, Diplomate ECVS, Tim Bosmans2, DVM, PhD, Elke Van der Vekens1, DVM, Diplomate ECVDI, Evelien de Bakker1, DVM, PhD, Piet Verleyen1, DVM and Bernadette Van Ryssen1, Prof, DVM, PhD
Vet Surg 2014

Tibial tuberosity advancement in small-breed dogs using TTA Rapid® implants. Complications and outcome

Evidensia Strömsholm Small Animal Referral Hospital, Sweden
Dyall B A R, DVM, Spec SWE. Schmökel H, DVM, DECVS, PHD
2016

TTA Rapid in the treatment of the canine cruciate deficient stifle: short- and medium-term outcome

S. J. Butterworth & D. M. Kydd, Weighbridge Referral Centre & Kydd & Kydd Vets
Journal of Small Animal Practice 2017

Postoperative infection with a multiresistant Staphylococcus aureus (MRSA) in a Bernese mountain dog with a rupture of the cranial cruciate ligament

Ghent University, Faculty of Veterinary Medicine, Department of Veterinary Medical Imaging and Small Animal Orthopaedics

1F. Vandael, 1E. de Bakker, 2D. Paepe, 1L.Mosselmans, 1Y. Samoy, 1G. Verhoeven, 1B. Van Ryssen

Flemish Veterinary Journal, 2015, 84

TTA Rapid: an interesting alternative operation method of an injured cranial crucial ligament

Lecznica Weterynaryjna Arwet w Wieliczce
lek. wet. Rafał Korta
WETERYNARIA W PRAKTYCE 2014

TTA Rapid for treatment of cranial cruciate ligament injuries in dogs. Clinical results 50 cases.

Kydd and Kydd Veterinary Health Centre, Wimbledon
David M Kydd BVetMed CertVR CertSAO MRCVS
Orthopaedic News from Kydd & Kydd 2014

More Information

Please visit our website and read the latest studies, find additional videos, surgery instructions, special surgeries and much more...

rapid.leibinger.vet

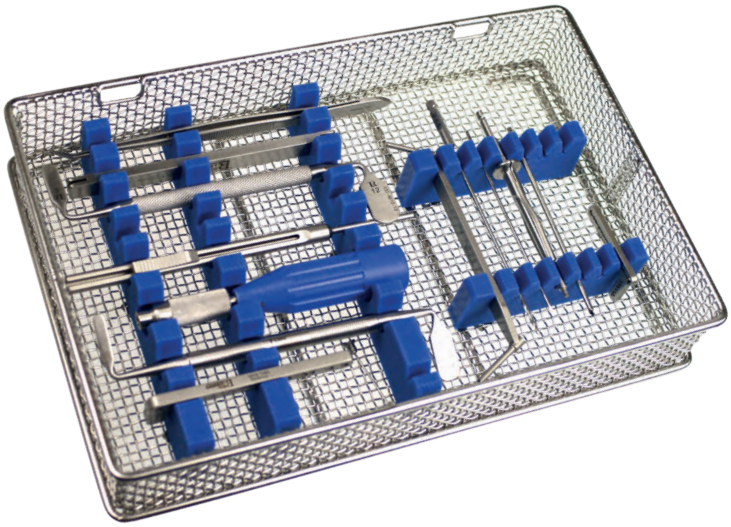
TTA RAPID Instrument Kit

Contents:
Sterilization Tray
Saw Guide „Petite“ with Pin
Saw Guide „Standard“ with Pin
Lever-Spreader 3/9 + 6/12
Twist Drill 1.8
Depth Gauge
Screwdriver Handle
Screw Driver Shaft 2.4 + Holding Sleeve
each 1x Kirschner Wires, single Traktor 2.5 + 1.5
Drill Guide
Plate Holding Forceps

132-6000-10

Tray without contents

132-5000-10/A



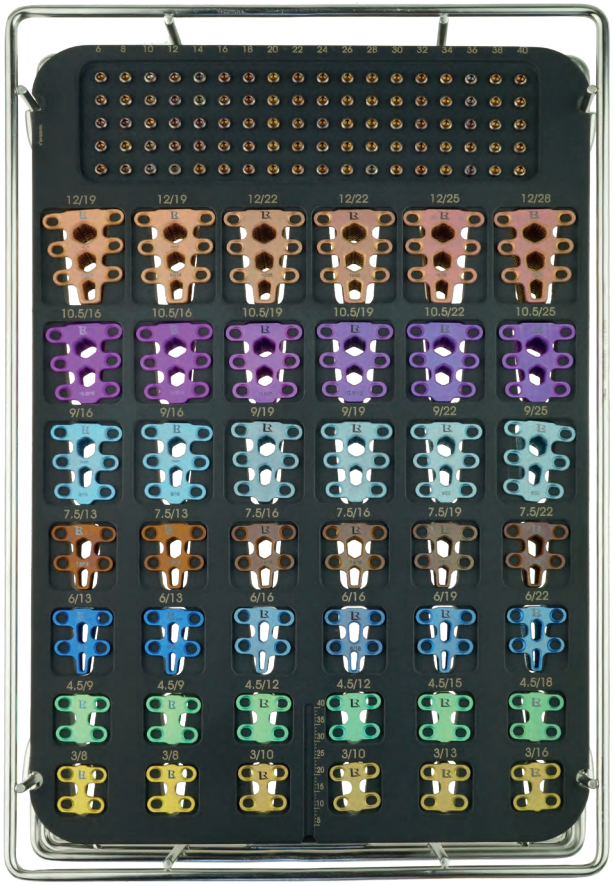
TTA RAPID Premium Set

Contents:
Sterilization Tray with Lid
5 pieces 2.4mm screws of each length
(6-40mm, 90 St. altogether)
All cage sices from 3-12mm
the short and very short variant type are though
double included (42 Cages altogether)

132-6002-00

Tray without contents

132-5000-00/A



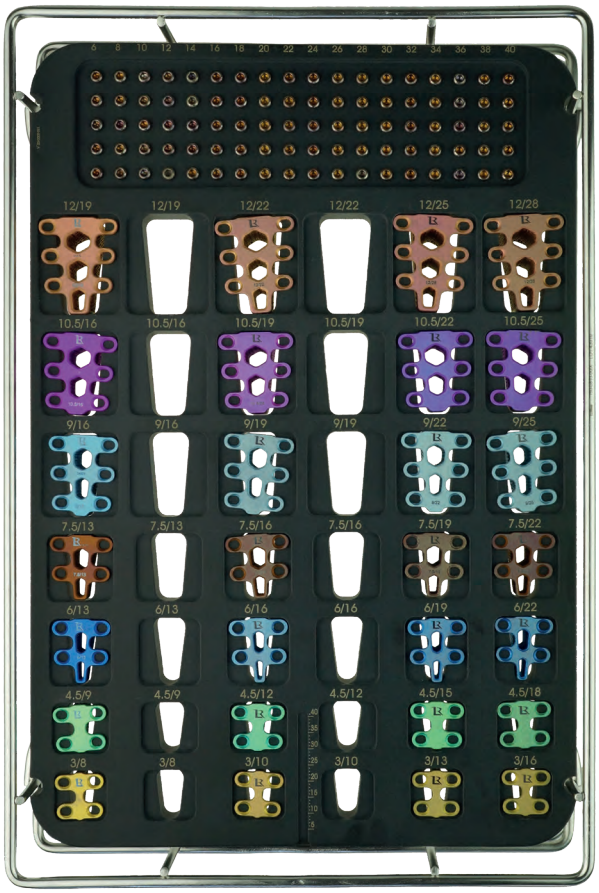
TTA RAPID Starter Split Set I

Contents:
Sterilization Tray with Lid
5 pieces 2.4mm screws of each length
(6-40mm, 90 St. altogether)
1 piece each cage sice from 3-12mm
(28 Cages altogether)

132-6003-00

Tray without contents

132-5000-00/A



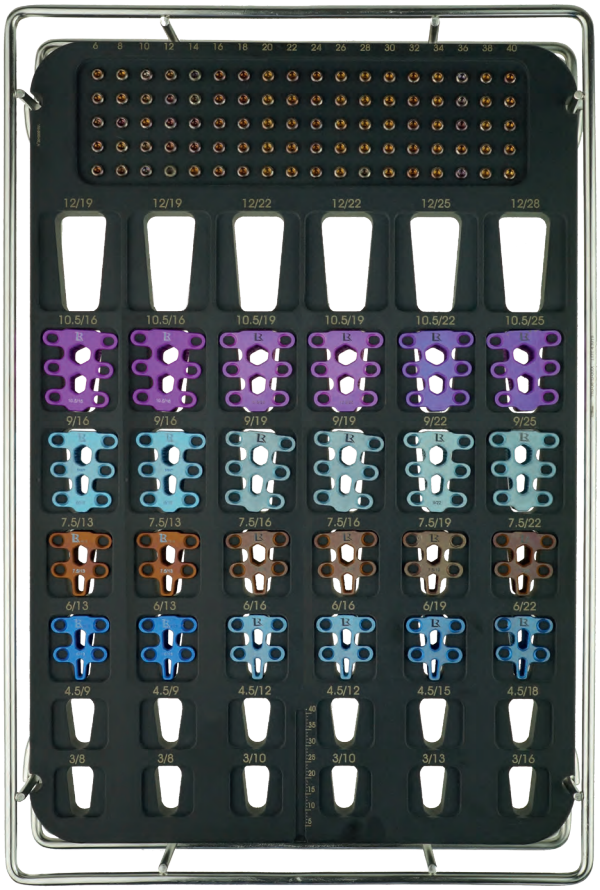
TTA RAPID Starter Set II

Contents:
Sterilization Tray with Lid
5 pieces 2.4mm screws of each length
(6-40mm, 90 St. altogether)
The most commonly used cages from 6-10.5mm
the short and very short variant type are though
double included (24 Cages altogether)

132-6004-00

Tray without contents

132-5000-00/A



TTA RAPID Starter Set III

Contents:
Sterilization Tray with Lid
5 pieces 2.4mm screws of each length
(6-40mm, 90 St. altogether)
each one piece most commonly used cages
from 6-10.5mm (16 Cages altogether)

132-6005-00

Tray without contents.

132-5000-00/A

TTA RAPID Starter Set IV

Contents:
Sterilization Tray with Lid
5 pieces 2.4mm screws of each length
(6-40mm, 90 St. altogether)
each 1 pieceof the most commonly used cages from
6-10.5mm, but within the very depth variant
(12 Cages altogether)

132-6006-00

Tray without contents.

132-5000-00/A

NEW

Tiny Set
in next section

Sterilization Tray

310x190x130mm

blue (image)

150-5401-30

green

150-5402-30

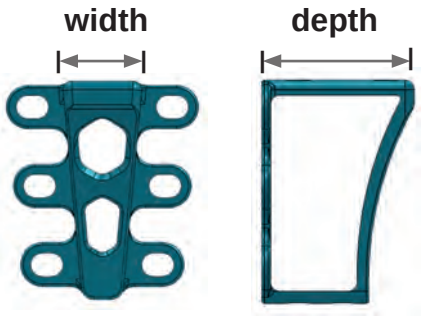
TTA RAPID ® Cages

Titanium

patented

Product Code	Size (mm) (wide/deep)	Color	
132-0023-08	3/08 (petite) for 2.0 screws		
132-0023-10	3/10 (petite) for 2.0 screws		
132-0023-13	3/13 (petite) for 2.0 screws		
132-0003-08	3/08 for 2.4 screws		NEW
132-0003-10	3/10 for 2.4 screws		
132-0003-13	3/13 for 2.4 screws		
132-0003-16	3/16 for 2.4 screws		
132-0045-09	4.5/09 for 2.4 screws		NEW
132-0045-12	4.5/12 for 2.4 screws		
132-0045-15	4.5/15 for 2.4 screws		
132-0045-18	4.5/18 for 2.4 screws		
132-0006-13	6/13 for 2.4 screws		NEW
132-0006-16	6/16 for 2.4 screws		
132-0006-19	6/19 for 2.4 screws		
132-0006-22	6/22 for 2.4 screws		
132-0075-13	7.5/13 for 2.4 screws		NEW
132-0075-16	7.5/16 for 2.4 screws		
132-0075-19	7.5/19 for 2.4 screws		
132-0075-22	7.5/22 for 2.4 screws		

Product Code	Size (mm) (wide/deep)	Color	
132-0009-16	9/16 for 2.4 screws		NEW
132-0009-19	9/19 for 2.4 screws		
132-0009-22	9/22 for 2.4 screws		
132-0009-25	9/25 for 2.4 screws		
132-0105-16	10.5/16 for 2.4 screws		NEW
132-0105-19	10.5/19 for 2.4 screws		
132-0105-22	10.5/22 for 2.4 screws		
132-0105-25	10.5/25 for 2.4 screws		
132-0012-19	12/19 for 2.4 screws		NEW
132-0012-22	12/22 for 2.4 screws		
132-0012-25	12/25 for 2.4 screws		
132-0012-28	12/28 for 2.4 screws		
132-0135-19	13.5/19 for 2.4 screws		NEW
132-0135-22	13.5/22 for 2.4 screws		
132-0135-25	13.5/25 for 2.4 screws		
132-0135-28	13.5/28 for 2.4 screws		
132-0015-19	15/19 for 2.4 screws		NEW
132-0015-22	15/22 for 2.4 screws		
132-0015-25	15/25 for 2.4 screws		
132-0015-28	15/28 for 2.4 screws		



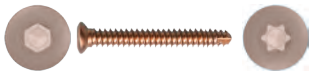

2.0 Self-tapping Screws, Titanium

Hexagonal or **Star Drive** head, self tapping, with three flute cutting edge

Length (mm)	Hexagonal (Petite)	Star Drive (Petite)
6	245-220-06	245-520-06
8	245-220-08	245-520-08
10	245-220-10	245-520-10
12	245-220-12	245-520-12
14	245-220-14	245-520-14
16	245-220-16	245-520-16
18	245-220-18	245-520-18
20	245-220-20	245-520-20
22	245-220-22	245-520-22
24	245-220-24	245-520-24
26	245-220-26	245-520-26
28	245-220-28	245-520-28
30	245-220-30	245-520-30

2.4 Self-tapping Screw Titan

Hexagonal or **Star Drive** Head, self tapping, with three flute cutting edge



Length (mm)	Hexagonal (Standard)	Star Drive (Standard)
6	245-224-06	245-524-06
8	245-224-08	245-524-08
10	245-224-10	245-524-10
12	245-224-12	245-524-12
14	245-224-14	245-524-14
16	245-224-16	245-524-16
18	245-224-18	245-524-18
20	245-224-20	245-524-20
22	245-224-22	245-524-22
24	245-224-24	245-524-24
26	245-224-26	245-524-26
28	245-224-28	245-524-28
30	245-224-30	245-524-30
32	245-224-32	245-524-32
34	245-224-34	245-524-34
36	245-224-36	245-524-36
38	245-224-38	245-524-38
40	245-224-40	245-524-40

Screw Rack

Product Code	Description
150-0520-00	for 2.0 mm screws
150-0524-00	for 2.4 mm screws

TTA RAPID®

Correction of a Patella-Luxation during a TTA-operation

This technique is suitable for dogs which suffer from both a Patella-luxation and a cruciate ligament rupture.

Patella Luxation Spacers

for RAPID LUXATION and TTA RAPID, Titanium

Product Code	Specifications	dimension
132-8030-01L	1 mm height, 2 Holes, left	Petite/Tiny
132-8030-01R	1 mm height, 2 Holes, right	Petite/Tiny
132-8030-02L	2 mm height, 2 Holes, left	Petite/Tiny
132-8030-02R	2 mm height, 2 Holes, right	Petite/Tiny
132-8030-03L	3 mm height, 2 Holes, left	Petite/Tiny
132-8030-03R	3 mm height, 2 Holes, right	Petite/Tiny
132-8030-04L	4 mm height, 2 Holes, left	Petite/Tiny
132-8030-04R	4 mm height, 2 Holes, right	Petite/Tiny
132-8020-02L	2 mm height, 2 holes, left	3 - 7,5 mm
132-8020-02R	2 mm height, 2 holes, right	3 - 7,5 mm
132-8020-03L	3 mm height, 2 holes, left	3 - 7,5 mm
132-8020-03R	3 mm height, 2 holes, right	3 - 7,5 mm
132-8020-04L	4 mm height, 2 holes, left	3 - 7,5 mm
132-8020-04R	4 mm height, 2 holes, right	3 - 7,5 mm
132-8010-02L	2 mm height, 3 holes, left	9 - 15 mm
132-8010-02R	2 mm height, 3 holes, right	9 - 15 mm
132-8010-04L	4 mm height, 3 holes, left	9 - 15 mm
132-8010-04R	4 mm height, 3 holes, right	9 - 15 mm
132-8010-06L	6 mm height, 3 holes, left	9 - 15 mm
132-8010-06R	6 mm height, 3 holes, right	9 - 15 mm

Tibia Tappet

NEW

For inserting Patella Luxation Spacers.

Product Code	Description
132-4071-00	Petite / Tiny 2.0 mm
132-4070-00	Standard 2.4 mm

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Patella Saw

with standard sawblade, incl. Allen Wrench 1.5mm

23-1005-90

Twist Drill

Product Code	Ø (mm)	Length (mm)	Connec-tion
148-0080-15	1.5 (Petite)	70/30	straight sh.
148-0080-18	1.8 (Stand.)	125/25	straight sh.

Product Code	Ø (mm)	Length (mm)	Connec-tion
148-0081-15	1.5 (Petite)	85/60	AO QC
148-0081-18	1.8 (Stand.)	125/25	AO QC

TTA Depth Gauge

Product Code	Description
164-1520-20	Petite 2.0 mm
164-2735-60	Standard 2.4 mm

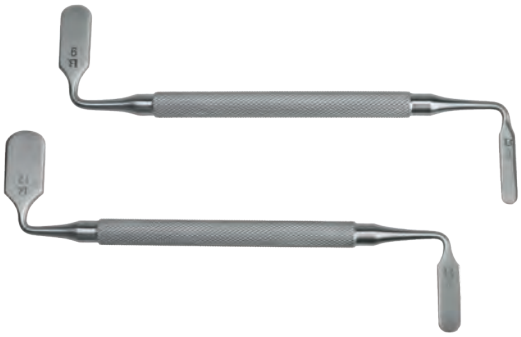
TTA RAPID ® Spreader

with tensioning and fixation screw, 16 cm

132-4080-16

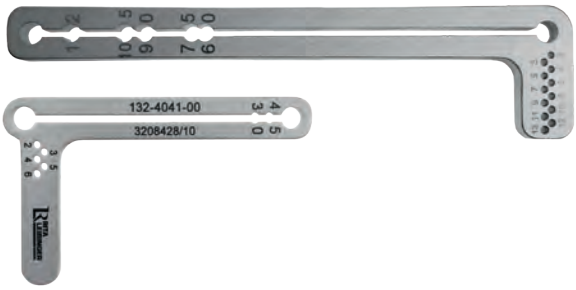
TTA RAPID ® Lever-Spreader

Product Code	Description
132-4000-13	3 mm & 9 mm
132-4010-13	6 mm & 12 mm
132-4015-13	13.5 mm & 15 mm



TTA RAPID ® Saw Guide

Product Code	Description
132-4040-00	for Käfiggröße 6-15 mm
132-4041-00	for Käfiggröße 3-4.5 mm



TTA RAPID ® Saw Guide Pin

Ø 1.0mm

132-4030-10

TTA RAPID ® Bending Iron

120 mm, double sided

132-4020-00

Screwdriver Handle

Silicone, straight, AO-Connection sterilizable up to 134°C / 273°F

247-0103-00

Screw Driver Shaft Hexagonal

Standard 2.4 mm (Holding sleeve necessary)

128-0900-20

Holding sleeve

2.4 mm for 128-0940-20

128-0940-24

Screw Driver Shaft Star-Drive

AO conncection, self-holding, (no holding sleeve needed)
Star-Drive T8, for 2.0 & 2.4 mm Screws, 100mm

128-2024-08

Plate Holding Forceps

160 mm, angulate

164-0050-16

Kirschner Wires, Single Trocar

Product Code	Description
144-1015-10	1.5 mm x 100 mm
144-1025-10	2.5 mm x 100 mm

Drill Guide

1.5 / 1.8 mm, 100 mm Length

164-0070-18

Boneholding Forceps

21,5 cm - with spin lock

128-0525-21

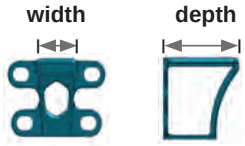
Tiny TTA RAPID ® Set

Titanium
Tiny TTA RAPID is designed for tiny animals – especially cats, toy dogs and dogs with short legs needing a wide advancement. The tiny sawguide allows short osteotomies.

Contents:
1 Sterilization Tray with Lid
1 of each Tiny TTA RAPID Cage (12 total)
1 of each 2, 3 & 4mm Patella Spacer (6 total)
1 Rapid Luxation Plate „Petite“
5 of each 1.5mm Screw (6-20mm, 40 total)
5 of each 2.0mm Screw (6-26mm, 55 total)
1 Tibia Tappet „Petite“
1 Plate Holding Forceps
1 Tiny Sawguide with Pin & K-Wire
1 Depth Gauge
2 Drills (1.1 & 1.5mm)
2 Screw Driver Shafts (T6 & T8)
1 Screwdriver Handle
1 Drill Guide

132-6500-00

Tray without contents.
132-6500-10



Tiny TTA RAPID ® Cages

Titanium

Product Code	Size (mm) (wide/deep)	Color
132-0152-06	**2/06** for 1.5 screws	
132-0152-08	**2/08** for 1.5 screws	
132-0152-10	**2/10** for 1.5 screws	
132-0153-07	**3/07** for 1.5 / 2.0 screws	
132-0153-09	**3/09** for 1.5 / 2.0 screws	
132-0153-11	**3/11** for 1.5 / 2.0 screws	

Product Code	Size (mm) (wide/deep)	Color
132-0245-08	**4.5/08** for 2.0 screws	
132-0245-10	**4.5/10** for 2.0 screws	
132-0245-12	**4.5/12** for 2.0 screws	
132-0026-09	**6/09** for 2.0 screws	
132-0026-11	**6/11** for 2.0 screws	
132-0026-13	**6/13** for 2.0 screws	

Patella Luxation Spacer

for RAPID LUXATION and TTA RAPID, Titanium

Product Code	Specifications	for cages
132-8030-01L	1 mm height, 2 Holes, left	petite
132-8030-01R	1 mm height, 2 Holes, right	petite
132-8030-02L	2 mm height, 2 Holes, left	petite
132-8030-02R	2 mm height, 2 Holes, right	petite

Product Code	Specifications	for cages
132-8030-03L	3 mm height, 2 Holes, left	petite
132-8030-03R	3 mm height, 2 Holes, right	petite
132-8030-04L	4 mm height, 2 Holes, left	petite
132-8030-04R	4 mm height, 2 Holes, right	petite

Rapid Luxation Plate

4-hole, 1 mm height, with gliding holes for 1.5 + 2.0 mm screws

132-8200-03

1.5 Cortical Screw Titan

Star Drive head, self tapping,
with three flute cutting edge

Length (mm)	Star Drive
6	245-515-06
7	245-515-07
8	245-515-08
9	245-515-09
10	245-515-10
11	245-515-11
12	245-515-12
14	245-515-14
16	245-515-16
18	245-515-18
20	245-515-20

2.0 Cortical Screw Titan

Star Drive head, self tapping,
with three flute cutting edge

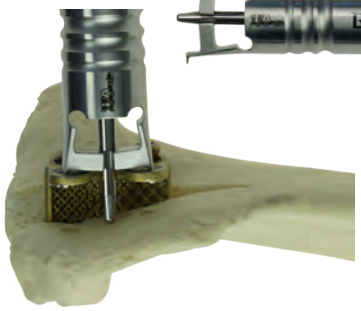
Length (mm)	Star Drive
6	245-520-06
7	245-520-07
8	245-520-08
9	245-520-09
10	245-520-10
11	245-520-11
12	245-520-12
14	245-520-14
16	245-520-16
18	245-520-18
20	245-520-20

Patella Luxation Tibia Tappet

For inserting Patella Luxation Spacers
for TTA RAPID or RAPID LUXATION.
Petite / Tiny 2,0 mm

NEW

132-4071-00



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Patella Saw

with standard sawblade, incl. Allen Wrench 1.5mm

23-1005-90

Twist Drill

Product Code	Ø (mm)	Length (mm)	Connection
148-0180-11	1.1	85	straight shank
148-0180-15	1.5	127	straight shank

Product Code	Ø (mm)	Length (mm)	Connection
148-0181-11	1.1	85	AO QC
148-0181-15	1.5	110	AO QC

TTA Depth Gauge
Tiny 1.5/2.0 mm

164-1520-20

TTA RAPID ® Tiny Spreader
with fixation screw, 8 cm

132-4080-08

TTA RAPID ® Lever-Spreader
3 mm & 9 mm

132-4000-13

TTA RAPID ® Saw Guide
for tiny cages size 2-6 mm

132-4042-00

TTA RAPID ® Saw Guide Pin
Ø 1.0mm

132-4030-10

TTA RAPID ® Bending Iron
120 mm

132-4020-00

Screwdriver Handle
Silicone, straight, AO-Connection
sterilizable up to 134°C / 273°F

247-0103-00

Screwdriver Shaft Star-Drive
AO conncection, self-holding (no holding sleeve needed)

Product Code	Description
128-1520-15	Star-Drive T6, for 1.5 mm Screws
128-1520-20	Star-Drive T8, for 2.0 & 2.4 mm Screws

Plate Holding Forceps
90 mm, curved

164-0050-09

Kirschner Wires, Single Trocar
1.5 mm x 100 mm

144-1015-10

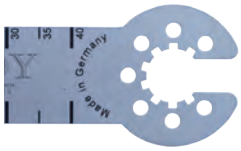
Drill Guide
1.1 / 1.5 mm, 100 mm Length

164-0070-15

Sawblades - „Samoy Rapid-Cut“

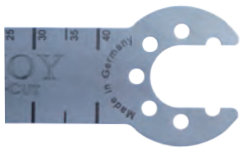
extreme cutting precision optimum performance protection against wear titanium nitride*

Colibri



Aesculap

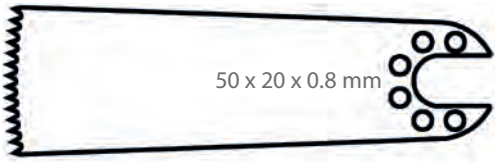
Linvatec-Hall

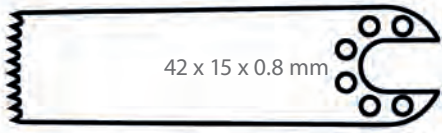


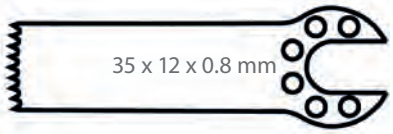
AO/Synthes

TERRIER

HORNET







Standard	Length x Width x Cutting Thickness			
for Connection	50x20x0.8mm	42x15x0.8mm	35x12x0.8mm	27x10x0.8mm
Colibri	102-1420-50	102-1414-42	102-1411-35	102-1411-27
Aesculap	102-1720-50	102-1714-42	102-1711-35	102-1711-27
Linvatec-Hall	102-1520-50	102-1514-42	102-1511-35	102-1511-27
AO/Synthes	102-1620-50	102-1614-42	102-1611-35	102-1611-27
		40x16x0.7mm	40x12x0.7mm	
TERRIER		102-1916-40	102-1912-40	
		18x6x0.3mm	24x9x0.3mm	
HORNET		102-2026-18	102-2026-24	

„Petite“	Product Code	Length x Width x Cutting Thickness
Colibri	102-1211-30	30x11x0.6mm
Aesculap	102-1212-25	25x10x0.7mm
Linvatec-Hall	102-1213-25	25.5x9.4x0.65mm
AO/Synthes	102-1210-25	25x10x0.6mm

*Titanium Nitride (TiN) is one of the hardest and toughest materials in the medical field. TiN coated Saw-Blades last **up to 5 times longer**.