ABSTRACT SUBMISSION

DEADLINE: 15 JUNE 2023

SCIENTIFIC COMMITTEE

BRUNO PEIRONE
Congress Chairman, ESVOT President

JORDI FRANCH, GUILLAUME RAGETLY,
EVA SCHNABL-FEICHTER

SECRETARIAT

Logistic aspects, information and registration:

EV

Palazzo Trecchi - Via Trecchi, 20 - 26100 Cremona (Italy)
Phone 0039 0372.403509
E-mail: info@esvot.org
Web: www.esvotcongress.org

Organized by

EV

Certified ISO 9001:2015

ABSTRACT SUBMISSION / INSTRUCTIONS FOR AUTHORS

The Scientific Committee of the **22nd ESVOT Congress** invites authors to submit scientific abstracts for podium presentation at Congress.
These should be of original and unpublished work.
Papers from practitioners are particularly welcome.
A maximum of two papers per author will be accepted.

Free communications to be presented in the Main scientific sessions will be evaluated only if pertinent to the topics of the Congress.

MAIN TOPICS FOR 2023 IS COMPLICATIONS IN TRAUMATOLOGY

Free Communications must be written and presented in English.
Oral presentations have a 20-minute slot (including 5 min for questions/answers) which may not be exceeded. Abstracts should report recent clinical research; preliminary findings and single case reports will be considered. Reviews will not be accepted.
Research abstracts must have ethical review approval. Research must not have been published nor accepted for publication by the closing date of submission 15 JUNE 2023, 11:59 PM (Rome Time Zone).

All abstracts are reviewed by the Congress Scientific Committee which reserves the right to select abstracts relevant to the sessions and topics and decides on the final form of the presentation (oral or poster) and on pubblication on OrthoVetSuperSite.

Posters related to recent research into any aspect of veterinary orthopaedics and traumatology will be accepted for evaluation by the Scientific Committee.

Once the review process of all submitted abstracts is completed, authors will receive an e-mail informing whether the abstract has been accepted and whether it has been selected for poster or for oral presentation.
All abstract presenters (first author) must register for the Congress and are granted of a 30% reduction on the Congress registration fee. Submitted abstracts will be accepted and published in the conference proceedings only upon receipt of payment.

ABSTRACTS ARE TO BE SUBMITTED ONLINE BY 15 JUNE 2023, 11:59 PM (Rome Time Zone). Authors whose abstracts have been accepted will be notified by **15 JULY 2023.** For abstract submission please go to the ABSTRACT SUBMISSION CENTRE at web site **http://abstract.evsrl.it/**.
To access the ABSTRACT SUBMISSION CENTRE it is necessary to get a user name and a password for the EGO System.
Should you do not have user name and password, please go to EGO Home Page at **http://ego.evsrl.it/**.
Username and password will be sent in 2 working days.

The ABSTRACT SUBMISSION CENTRE will guide you filling up the following fields:

1. ABSTRACT FORMAT
A single abstract is required: text length should be 8.000 characters
including spaces.

2. TITLE
Title of work must be in CAPITAL LETTER, maximum length 180 characters including spaces.

3. SUBJECT

4. ADDRESS FOR CORRESPONDENCE

5. AUTHORS
- Max. 7 authors. Mark the presenting author with an asterisk.
- Indicate affiliation to an institute with superscript numbering e.g., Smith T1, Patterson C2.
- Enter institutes in numerical sequence after the parameter <Institution> e.g.
  1 XXXXXX, 2XXXXXX

6. TEXT AND BIBLIOGRAPHY

ESVOT POLICY ON THE USE OF ANIMALS IN RESEARCH

ESVOT's aims are to promote and advance the standards of orthopaedics and traumatology in veterinary species through clinical research and training. We encourage robust clinical and translational research in the area of veterinary orthopaedics.
Such research may often involve prospective or retrospective studies on animals or ex vivo or in vitro studies on animal tissues. Studies on veterinary patients should not involve unnecessary interventions with the sole purpose of research; in other words, all interventions on veterinary patients should be for the intended benefit of the individual animal.
All such research should have local Ethics Committee approval as well as any local, regional or national licences when required; abstracts submitted should state this is the case when indicated.
As a scientific society concerned with the health and welfare of animals, ESVOT acknowledges that sometimes research on animals is necessary for the benefit of human and animal health. However, we strongly support the 3R tenets of Russell and Burch, namely 'replacement, refinement and reduction' of animals in research, as supported by the International Council for Laboratory Animal Science (**www.iclas.org**) and embedded in the European Union Directive 2010/63/EU (**http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:276:0033:0079:EN:PDF**).
Moreover, ESVOT will not accept any studies for presentation or publication that involve the use of live **dogs, cats, horses or non-human** primates in invasive experimentation.

ABSTRACT SUBMISSION / INSTRUCTIONS FOR AUTHORS

EXAMPLE
SHORT COMMUNICATION FULL ABSTRACT
(Proceedings)
Total length 8000 characters

MECHANICAL PERFORMANCE OF A NEW POLYAXIAL LOCKING SYSTEM AND THE INFLUENCE OF SCREW ANGULATION IN A FRACTURE GAP MODEL

J. Kaczmarek, *DVM*[1], *T. Bartkowiak, PhD*[2], *R. Schuenemann, Dr. med. vet. Dipl. ECVS*[1], *P. Paczos, PhD, DSc*[2], *B. Gapinski, PhD*[2], *M. Unger, Dr. med. vet. Dipl. ECVS*[1]

Introduction

A recent development to overcome the limitation of locking plates of fixed angle screw insertion was the introduction of polyaxial locking systems. These allow screw insertion at different angles while still offering the advantages of a locked construct.
The new Polyaxial Locking System (PLS) is made of 316 SS stainless steel and features partially threaded screw holes which allow screw insertion up to 15 degrees off axis.
The first goal of this study was to compare the mechanical behavior of an 8 hole 3.5 mm PLS and an 8 hole 3.5 mm Locking Compression Plate (LCP) using single cycle to failure 4-point-bending tests, followed by measurements obtained by pre and post testing metrological CT scans of the thread connections between the screws and plates. The second goal was to investigate and compare the mode of failure and durability of 10 hole 3.5 mm PLS constructs with screws inserted perpendicular to constructs and with screws inserted 15° off axis using 4-point cyclic fatigue tests in two bending directions. Our null hypotheses were that there would be no differences between LCP and PLS and between monoaxial and polyaxial constructs.

Materials and methods

Acetal rods used as bone surrogates were aligned in a custom designed jig with a 25 mm spacer between the two segments, simulating a fracture gap model.
For the 4-point-bending single cycle to failure test, 8 hole 3.5 mm PLS and 8 hole 3.5 mm LCP plates with 3 perpendicular screws per segment were used. Destructive static tests were conducted using a universal servohydraulic testing machine in accordance with ASTM standard. Bending stiffness, strength, and structural stiffness were compared between the groups.
For the 4-point-bending cyclic fatigue test, 10 hole 3.5 mm PLS plates were used in two groups: in group 1, the portion of the plate with the minimum section modulus (plate width) and in group 2, the portion with the maximum section modulus (plate thickness) faced the loading direction. Each group was divided into two subgroups: one with screws perpendicular to all axes (monoaxial) and one with screws angled 15° off perpendicularity in the short axis of the plate, resembling screws angled in the transverse plane of the bone (polyaxial).
For fatigue tests a hydraulic pulsator was used with 75% of the force causing permanent plastic deformation of 0.28 mm, which was determinated in a single cycle to failure pilot test. Destructive cyclic testing was performed in orthogonal directions (groups 1 and 2). The number of cycles to failure was recorded. Metrological Computed Tomographic data from measurements of screw head – plate interfaces in both polyaxial and monoaxial PLS samples as well as LCP samples were recorded before and after testing.
One-way ANOVA with post-hoc Tukey HSD test was used to compare means of forces and cycles needed to reach failure.
Statistical significance was set at a p-value of <0.05.

Results

Of 10227 orthopaedic patients admitted during the observation period, 556 (5,5%) were diagnosed with a stifle disorder.
Seventy-eight of them suffered from complete intermittent or permanent UFP (13,8%). One third of the horses with UFP was admitted in November and December. Shetland and other ponies were significantly more represented than other breeds. Mean age at evaluation was 3,9 years (range between 7 months and 15 years) and there was no sexpredisposition.
CTS was performed in 71 horses which showed intermittent complete UFP on a regular basis.
Follow-up evaluation was possible in 64 of them for a period ranging from 4 months up to 12 years. In 26 horses (40,6%), correcting the foot position was successful in eliminating all clinical signs and no UFP was seen as long as foot position was adjusted.
Thirteen horses (20,3%) showed a partial improvement as a result of correcting foot position: locking of the patella still occurred but at a lower frequency and duration. Altogether, a positive effect of correcting hoof position was seen in all 39 horses (60,9%). On inquiry it appeared that in those cases, no other measures beside CTS had been taken. In none of the horses adverse effects related to CTS were observed, even if this measure had been applied for several years. In 7 horses (10,6%), improvement could not directly be linked to correcting foot position alone, because symptoms didn't disappear immediately. In 6 of those 7 horses, improvement was attained only after improving the horse's physical condition. In 18 cases (28,1%), conservative treatment was not successful.

Conclusion

UFP affects mainly young horses and ponies during winter months. CTS is an easy and harmless measure that is worth trying before more radical procedures to correct UFP are performed.

Bibliography

American Society for Testing and Materials. Standard Specification and Test Method for Metallic Bone Plates, ASTM F382–99 (Reapproved 2003). In: 2003 Annual Book of ASTM Standards. West Conshoohocken, PA: ASTM; 2003.
Benamou J, Demianiuk RM, Rutherford S, et al. Effect of bending direction on the mechanical behaviour of 3.5 mm String-of-Pearls and Limited Contact Dynamic Compression Plate constructs. Vet Comp Orthop Traumatol. 2015;28(6):433-40
Blake CA, Boudrieau RJ, Torrance BS, et al. Single cycle to failure in bending of three standard and five locking plates and plate constructs. Vet Comp Orthop Traumatol. 2011;24(6):408-17
DeTora M, Kraus K. Mechanical testing of 3.5 mm locking and non-locking bone plates. Vet Comp Orthop Traumatol. 2008;21(4):318-22.
Malenfant RC1, Sod GA. In Vitro Biomechanical Comparison of 3.5 String of Pearl Plate Fixation to 3.5 Locking Compression Plate Fixation in a Canine Fracture Gap Model. Vet Surg. 2014 May;43(4):465-70
Tomlinson AW, Comerford EJ, Birch RS, et al. Mechanical performance in axial compression of a titanium polyaxial locking plate system in a fracture gap model. Vet Comp Orthop Traumatol. 2015;28(2):88-94

FOR FURTHER INFORMATION PLEASE CONTACT ESVOT SECRETARIAT

Palazzo Trecchi - Via Trecchi 20 - 26100 Cremona (Italy)
Phone 0039 0372 403509
E mail: info@esvot.org