

## Preferred techniques to treat the Canine Cranial Cruciate Ligament Deficient Stifle (CCLDS)

This is a survey on the preferred technique of small animal surgeons and VOS members to treat the Canine Cranial Cruciate Ligament Deficient Stifle (CCCLDS) in healthy, mature, and active dogs weighing more than 15kg. The study is approved and supported by the VOS board. Completion of the 20 questions will take 5-10min. Your feedback is very important. Thank you so much for participating! Note that the survey will close July 31st.

There is little data on the preferred techniques to stabilize CCCLDS (Comerford 2013, Leighton 1999, Duerr VCOT 2014). Knowledgeable small animal orthopedic surgeons like you are influenced by daily clinical experience, which may affect your recommendation on treatment for CCCLDS. The current survey was developed to collect additional data, including potential benefits and pitfalls on what we believe are currently the most often used techniques: 1.) Extracapsular (ExCaps; monofilament nylon). 2.) Tibial Plateau Leveling Osteotomy (TPLO; medical grade stainless steel locking plate), 3.) Tibial Tuberosity Advancement (TTA; medical grade titanium implants), and 4.) TightRope (TR; braided FiberWire). The gained information will help to make the best choice of treatment for other surgeons and pet owners. Note that this study focuses on an active, healthy, mature dog weighing  $\gt$  15kg (for example a male neutered 5 year old Labrador Retriever or similar breed; TPA 20-35 degrees, intact meniscus, caudal or medial meniscal release). Your answers will be anonymous. You can edit your answers until you hit "Done" on the last page of this survey. Informed consent is required to participate in the questionnaire.

Thank you again for your participation. Please scroll down and click "Next".

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1. Do you primarily perform small animal surgery?

Yes

No

2. Have you been informed about and understand the purpose of the study and provide informed consent to participate?

Yes

No

3. Approximately how many dogs with cranial cruciate ligament tears do you treat surgically per year?  
Please provide your answer in single numerical format; do NOT use a range or text.

4. Are you a board-certified surgeon?

- Yes
- No
- Completed a residency but am not boarded

5. Please indicate in which college you were trained. If you are double-boarded, please only select the college you were trained with for the majority of your surgical residency.

- American College of Veterinary Surgeons
- European College of Veterinary Surgeons
- Australian College of Veterinary Surgeons
- Another College of Veterinary Surgeons providing Board-Certification
- I did not perform a residency thus cannot answer this question

6. How many years have passed since graduation from veterinary school? Please provide your answer in single numerical format; do not use a range or text.

7. In which field do you primarily work? If multiple fields, please choose the field in which you have worked the longest.

- Academia
- Private Practice
- Research
- Industry

The following questions pertain specifically to the specific techniques

8. If given one single option only as listed below - what would be your PREFERRED method to treat a cranial cruciate ligament deficient stifle in an active, healthy, mature dog weighing  $\geq 15$ kg? (Please disregard minor variations and answer for the most typical situation: for example a male neutered 5 year old Labrador Retriever or similar breed; weight  $>15$  kg; TPA 20-35 degrees).

Concurrent meniscal injury and meniscal treatment may influence outcome and be unrelated to the surgical technique. This topic would be another survey experiment. For the purpose of this survey and standardization, please assume a clinical scenario of a dog with intact medial meniscus that is undergoing a medial or caudal meniscal release.

- ExCaps
- TPLO
- TTA
- TightRope

9. If you chose ExCaps - list the reason(s) for this preference. Otherwise click "I selected another preferred method" and move to the next question.

- I selected another preferred method (DO NOT CHECK ANY OTHER OPTIONS - move to next question)
- High surgeon satisfaction (good outcomes, high functional recovery, low complications)
- Cost effective (for client and surgeon)
- High client satisfaction

10. If you chose TPLO - list the reason(s) for this preference. Otherwise click "I selected another preferred method" and move to the next question.

- I selected another preferred method (DO NOT CHECK ANY OTHER OPTIONS - move to next question)
- High surgeon satisfaction (good outcomes, high functional recovery, low complications)
- Cost effective (for client and surgeon)
- High client satisfaction

11. If you chose TTA - list the reason(s) for this preference. Otherwise click "I selected another preferred method" and move to the next question.

- I selected another preferred method (DO NOT CHECK ANY OTHER OPTIONS - move to next question)
- High surgeon satisfaction (good outcomes, high functional recovery, low complications)
- Cost effective (for client and surgeon)
- High client satisfaction

12. If you chose TightRope - list the reason(s) for this preference. Otherwise click "I selected another preferred method" and move to the next question.

- I selected another preferred method (DO NOT CHECK ANY OTHER OPTIONS - move to next question)
- High surgeon satisfaction (good outcomes, high functional recovery, low complications)
- Cost effective (for client and surgeon)
- High client satisfaction

13. Select the option that describes your experience with ExCaps. If ExCaps was previously your preferred technique but is not currently, please select up to 4 options that describe the main reasons you moved away from this technique. If you never considered it, please select why.

- I do use ExCaps as my preferred method. (DO NOT CHECK ANY OTHER OPTIONS - move to next question)
- Infections
- Implant failure
- Secondary meniscal tears
- Unsatisfactory short term outcome (less than 6 months)
- Unsatisfactory long term outcome (more than 1 year)
- Owners unsatisfied
- Complications overall
- Financial reasons (technique too expensive compared to others with similar outcome)

14. Select the option that describes your experience with TPLO. If TPLO was previously your preferred technique but is not currently, please select up to 4 options that describe the main reasons you moved away from this technique. If you never considered it, please select why.

- I do use TPLO as my preferred method. (DO NOT CHECK ANY OTHER OPTIONS - move to next question).
- Infections
- Implant failure
- Secondary meniscal tears
- Unsatisfactory short term outcome (less than 6 months)
- Unsatisfactory long term outcome (more than 1 year)
- Owners unsatisfied
- Complications overall
- Financial reasons (technique too expensive compared to others with similar outcome)

15. Select the option that describes your experience with TTA. If TTA was previously your preferred technique but is not currently, please select up to 4 options that describe the main reasons you moved away from this technique. If you never considered it, please select why.

- I do use TTA as my preferred method. (DO NOT CHECK ANY OTHER OPTIONS - move to next question).
- Infections
- Implant failure
- Secondary meniscal tears
- Unsatisfactory short term outcome (less than 6 months)
- Unsatisfactory long term outcome (more than 1 year)
- Owners unsatisfied
- Complications overall
- Financial reasons (technique too expensive compared to others with similar outcome)

16. Select the option that describes your experience with TightRope. If TightRope was previously your preferred technique but is not currently, please select up to 4 options that describe the main reasons you moved away from this technique. If you never considered it, please select why.

- I do use TightRope as my preferred method (DO NOT CHECK ANY OTHER OPTIONS - move to next question).
- Infections
- Implant failure
- Secondary meniscal tears
- Unsatisfactory short term outcome (less than 6 months)
- Unsatisfactory long term outcome (more than 1 year)
- Owners unsatisfied
- Complications overall
- Financial reasons (technique too expensive compared to others with similar outcome)

17. In your perception, which ONE of the techniques listed below would you expect to have the HIGHEST incidence of major complications (defined as needing any medical treatment for more than 4 weeks or any additional surgical treatment) when performed by a trained small animal surgeon (residency or 6+ years of experience in orthopedic surgery)?

- ExCaps
- TPLO
- TTA
- TightRope

18. In your perception, which ONE of the techniques listed below would you expect to have the LOWEST incidence of major complications (defined as needing any medical treatment for more than 4 weeks or any additional surgical treatment) when performed by a trained small animal surgeon (residency or 6+ years of experience in orthopedic surgery)?

- ExCaps
- TPLO
- TTA
- TightRope

19. In your perception and provided strict aseptic technique, which ONE of the following materials would you expect to carry the HIGHEST risk to develop complications (for example infection, development of instability, tissue irritation, implant failure, secondary meniscal tears, other complications) in association with treatment of a cranial cruciate ligament deficient stifle?

- Monofilament suture material
- Medical grade stainless steel
- Medical grade titanium
- Braided suture material

20. In your perception and provided strict aseptic technique, which ONE of the following materials would you expect to carry the LOWEST risk to develop complications (for example infection, development of instability, implant failure, secondary meniscal tears, other complications) in association with treatment of a cranial cruciate ligament deficient stifle?

- Monofilament suture material
- Medical grade stainless steel
- Medical grade titanium
- Braided suture material

21. The main survey is complete the box below can be used to provide any comments.

Thank you for your cooperation. Please click done