

## **Survey - Injuries in Brazilian Jiu Jitsu**

1. This study was initiated by Maximilian Hinz, an orthopaedic surgery resident in the Department of Orthopaedic Sports Medicine (Technical University of Munich) and a Brazilian Jiu Jitsu aficionado. Therefore, the survey you are about to complete is specifically about injuries in Brazilian Jiu Jitsu and their prevention.

This is the first study that investigates injury mechanisms, return to sports after injuries, return to competition and connects those findings to the initial preventive measures taken.

It aims to identify the most successful measures in preventing injuries from happening. Its significance is especially evident when most gyms worldwide are closed and athletes can't wait to return to the mat.

This survey will roughly take 15min of your time and is anonymous. If you have any questions or ideas to improve the survey, feel free to contact him at:

maximilian.hinz@tum.de

Would you like to participate?

- Yes (*Continue with question #2*)
- No (*Excluded from participation*)

2. What is your gender?

- Male
- Female

3. How old are you?

- [Sliding scale between 1 and 130]

4. What country do you live in?

- [Drop down menu with option of free text]

5. How tall are you? (in cm)

- [Sliding scale between 1 and 250]

6. How much do you weigh? (in kg)

- [Sliding scale between 1 and 180]

7. How long do you train Brazilian Jiu Jitsu?

- [Drop down menu of 11 options ranging from "< 3 months" to "> 15 years"]

8. What belt do you have?

- White
- Blue
- Purple
- Brown
- Black

9. How many hours do you train Brazilian Jiu Jitsu per week?

- [Drop down menu ranging from "1" to "> 20" in 1-hour-steps]

10. Have you competed in BJJ? If yes, how often do you usually compete?

- No (*Skip question #11*)
- Yes, 1-2x per year
- Yes, 3-4x per year
- Yes, 5x or more per year

11. What is the highest level you competed at?

- Regional or State (e.g., Rome Open, New York Open, ...)
- Country (e.g., Irish Open, Spanish Open, ...)
- Continent or World Championship (e.g., European, Asian, ...)

12. Do you perform another sport outside of BJJ? (choose one)

- Strength sports (e.g., Bodybuilding, Powerlifting, Weightlifting, Crossfit, ...)
- Water sports (e.g., Sailing, Surfing, ...)
- Ball sports (e.g., Soccer, Basketball, Football, ...)
- Another martial art (e.g., Judo, Boxing, ...)
- No (*Skip question #13, #14 and #15*)
- Others: *free text*

13. How many hours do you perform your second sport per week?

- [Sliding scale between 1 and 20]

14. Do you perform a third sport outside of BJJ?

- Strength sports (e.g., Bodybuilding, Powerlifting, Weightlifting, Crossfit, ...)
- Water sports (e.g., Sailing, Surfing, ...)
- Ball sports (e.g., Soccer, Basketball, Football, ...)
- Another martial art (e.g., Judo, Boxing, ...)
- No (*Skip question #15*)
- Others: *free text*

15. How many hours do you perform your third sport per week?

- [Sliding scale between 1 and 20]

16. What do you do outside of your BJJ training to prevent injuries? (*multiple answers possible*)

- Meditate
- Sleep more hours per night
- Take a nap when possible
- Improve sleep quality (sleep hygiene, e.g., limit screen time before sleep, ...)
- Nutrition: focus on high protein intake
- Nutrition: focus on high fruit and vegetable intake
- Nutrition: focus on high carbohydrate intake
- Nutrition: eating less processed food
- Nutrition: follow a vegetarian/ plant-based/ vegan diet
- Mobility training (e.g., yoga, stretching, ...)
- Hot and cold baths/ therapy
- Nothing
- Weight/ strength training
- Other: *free text*

17. Did you suffer from any kind of injury from training BJJ in the last three years of training (only injuries that kept you from training for more than two weeks)

- Yes
- No (*end of survey*)

18. Which fighting maneuver caused your injury?

- I was taken down (*Skip question #19*)
- I was taking my opponent down (*Skip question #19*)
- I was passing guard (*Skip question #19*)
- I got my guard passed (*Skip question #19*)
- I was attempting a submission
- My opponent was attempting a submission
- I don't know (*Skip question #19*)
- I was sweeping my opponent (*Skip question #19*)
- I was being swept (*Skip question #19*)
- Other: *free text* (*Skip question #19*)

19. During which submission?

- [Drop down menu with options such as, "Armbar", "Kimura", "Triangle Choke", and the option to enter free text]

20. Please specify the location of your injury:

- [Drop down menu with options such as, "Shoulder", "Upper Arm", "Elbow", "Forearm", "Wrist", "Hand", "Finger"]

21. Did you get injured during warm-up, drilling techniques, sparring or during competition?

- Warm-Up
- Drilling
- Sparring
- Competition

22. Please specify the type of your injury:

- [Drop down menu with options such as, “Fracture”, Torn tendon”, “Ligament tear”, “Laceration”, “Joint dislocation”, and the option to enter free text)

23. If you know: Which bone/ tendon/ muscle/ ligament was it and was it strained/ torn or partially torn?

- [Option to enter free text]

24. Did you see a specialist for your injury?

- Medical doctor
- Physical therapist
- Coach
- Chiropractor
- Self-diagnosed
- No, I didn't see a specialist

25. How did you treat your injury?

- Physical Therapy
- Surgery
- Pain medication
- Rest/ waited it out
- Cast
- Splint

26. Did you get back to training after your injury?

- Yes
- No

27. If you got back to training BJJ after your injury: Why did you take a break? If you did **not** get back to training BJJ since your injury: What kept you from returning to training?  
*(multiple answers possible)*

- Pain
- Lack of mobility
- Fear of getting reinjured
- Persisting instability
- Doctor's advice

28. When were you able to do physical exercises after your injury outside of BJJ (E.g., running, biking, swimming, lifting weights)?

- Less than a month
- 1-3 months
- 3-6 months
- 6-9 months
- 9-12 months
- More than a year
- I am not able to do that yet

29. How long did it take you to return to light BJJ training (no sparring/ rolling; just drills)?

- Less than a month
- 1-3 months
- 3-6 months
- 6-9 months
- 9-12 months
- More than a year
- I am not able to do that yet

30. How long did it take you to fully return to BJJ training (sparring/ rolling included)?

- Less than a month
- 1-3 months
- 3-6 months
- 6-9 months
- 9-12 months
- More than a year
- I am not able to do that yet

31. Did you get back to competing in BJJ? If yes, how long did it take you?

- Less than a month
- 1-3 months
- 3-6 months
- 6-9 months
- 9-12 months
- More than a year
- I didn't get back to competing again
- I still don't feel ready to compete

32. How long did you need to get back to your level compared to before your injury?

- Less than a month
- 1-3 months
- 3-6 months
- 6-9 months
- 9-12 months
- More than a year
- I am still not on my old level

33. What did you change coming back from this injury?

- Training more BJJ
- Training less BJJ
- Training more outside of BJJ
- Training less outside of BJJ
- I am sleeping more
- I am eating healthier
- I am stretching more
- Other: *free text*

34. Did you suffer from a second injury from training BJJ in the last three years of training (only injuries that kept you from training for more than two weeks)

- Yes
- No (*end of survey*)

35. Which fighting maneuver caused your injury?

- I was taken down (*Skip question #19*)
- I was taking my opponent down (*Skip question #19*)
- I was passing guard (*Skip question #19*)
- I got my guard passed (*Skip question #19*)
- I was attempting a submission
- My opponent was attempting a submission
- I don't know (*Skip question #19*)
- I was sweeping my opponent (*Skip question #19*)
- I was being swept (*Skip question #19*)
- Other: *free text* (*Skip question #19*)

36. During which submission?

- [Drop down menu with options such as, "Armbar", "Kimura", "Triangle Choke", and the option to enter free text]

37. Please specify the location of your injury:

- [Drop down menu with options such as, "Shoulder", "Upper Arm", "Elbow", "Forearm", "Wrist", "Hand", "Finger"]

38. Did you get injured during warm-up, drilling techniques, sparring or during competition?

- Warm-Up
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39. Please specify the type of your injury:

- [Drop down menu with options such as, “Fracture”, Torn tendon”, “Ligament tear”, “Laceration”, “Joint dislocation”, and the option to enter free text]

40. If you know: Which bone/ tendon/ muscle/ ligament was it and was it strained/ torn or partially torn?

- [Option to enter free text]

41. Did you see a specialist for your injury?

- Medical doctor
- Physical therapist
- Coach
- Chiropractor
- Self-diagnosed
- No, I didn't see a specialist

42. How did you treat your injury?

- Physical Therapy
- Surgery
- Pain medication
- Rest/ waited it out
- Cast
- Splint

43. Did you get back to training after your injury?

- Yes
- No

44. If you got back to training BJJ after your injury: Why did you take a break? If you did **not** get back to training BJJ since your injury: What kept you from returning to training?  
*(multiple answers possible)*

- Pain
- Lack of mobility
- Fear of getting reinjured
- Persisting instability
- Doctor's advice

45. When were you able to do physical exercises after your injury outside of BJJ (E.g., running, biking, swimming, lifting weights)?

- Less than a month
- 1-3 months
- 3-6 months
- 6-9 months
- 9-12 months
- More than a year
- I am not able to do that yet

46. How long did it take you to return to light BJJ training (no sparring/ rolling; just drills)?

- Less than a month
- 1-3 months
- 3-6 months
- 6-9 months
- 9-12 months
- More than a year
- I am not able to do that yet

47. How long did it take you to fully return to BJJ training (sparring/ rolling included)?

- Less than a month
- 1-3 months
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48. Did you get back to competing in BJJ? If yes, how long did it take you?

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50. What did you change coming back from this injury?

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- I am sleeping more
- I am eating healthier
- I am stretching more
- Other: *free text*

51. Did you suffer from a third injury from training BJJ in the last three years of training (only injuries that kept you from training for more than two weeks)

- Yes
- No (*end of survey*)

52. Which fighting maneuver caused your injury?

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- 9-12 months
- More than a year
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- 6-9 months
- 9-12 months
- More than a year
- I am not able to do that yet

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