

## Supplementary Appendix: Questionnaire for Data Collection in the Study

Diving Practices in Technical Divers' Community and Behaviour towards Self-reported Unusual Symptoms. Gouin et al.

# Characterization of Tek divers community "TEK-Care"

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\*Obligatoire

1. 1. You are :

*Une seule réponse possible.*

- ☐ A man
- ☐ A woman
- ☐ Other

2. 2. How old are you (in years) ? \*

*Une seule réponse possible.*

- ☐ 18-25
- ☐ 26-35
- ☐ 36-45
- ☐ 46-55
- ☐ >56

3. 3. How much do you weigh (in kilograms) ? \*

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4. 4. How tall are you (in centimeters) ? \*

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5. 5. Currently, do you have one or several "risk factors" for scuba diving ? (multiple answers allowed) \*

*Plusieurs réponses possibles.*

- ☐ Smoking
- ☐ Arterial hypertension
- ☐ Diabetes mellitus
- ☐ Heart disease (heart attack history, valvular disease or arrhythmia)
- ☐ Relatively low level of physical activity (moderate intensity exercise like fast walking, running, biking < 60 minutes per week)
- ☐ None of the above

6. 6. What is your home country ? \*

*Une seule réponse possible.*

- ☐ Belgium
- ☐ Canada
- ☐ Germany
- ☐ Ireland
- ☐ Italia
- ☐ Luxembourg
- ☐ Mainland France
- ☐ French overseas territories
- ☐ United Kingdom
- ☐ USA
- ☐ Spain
- ☐ Switzerland
- ☐ Other

7. 7. How long have you been practicing scuba diving (since your first scuba course) (in years) ? \*

*Une seule réponse possible.*

- ☐ < 1
- ☐ Between 1 and 5
- ☐ Between 6 and 10
- ☐ Between 11 and 20
- ☐ > 20

8. 8. How often do you practice scuba diving ? \*

*Une seule réponse possible.*

- ☐ Continuous practice all year long without discontinuity
- ☐ Continuous practice all year long but with short interruptions < 6 months
- ☐ Discontinuous practice with one (or several) interruptions for one or more year, for any reason
- ☐ Occasional practice (a few dives per year maximum)
- ☐ Don't know / No position

9. 9. How many dives did you realize during your years of practice (all types of dives) ? \*

*Une seule réponse possible.*

- ☐ <100
- ☐ Between 100 and 500
- ☐ Between 501 and 1000
- ☐ Between 1001 and 3000
- ☐ >3000

10. 10. For how long have you been certified for your first trimix certification (OC ro SCR/CCR) (in years) ? \*

*Une seule réponse possible.*

- ☐ < 1
- ☐ Between 1 and 5
- ☐ Between 6 and 10
- ☐ Between 11 and 20
- ☐ > 20

11. 11. How many Trimix dives did you realize during your years of practice ? \*

*Une seule réponse possible.*

- ☐ < 20
- ☐ Between 20 and 50
- ☐ Between 51 and 100
- ☐ Between 101 and 500
- ☐ > 500

12. 12. How many Trimix dives do you do in average per year ? \*

*Une seule réponse possible.*

- ☐ < 5
- ☐ Between 6 and 10
- ☐ Between 11 and 20
- ☐ Between 20 and 30
- ☐ > 30

13. 13. You Trimix dive : \*

*Une seule réponse possible.*

- ☐ In open circuit only
- ☐ In rebreather only
- ☐ Both (OC and SCR/CCR)
- ☐ Don't know / No position

14. 14. If you use a rebreather, what kind of equipment do you mostly use ?

*Une seule réponse possible.*

- ☐ electronic Closed Circuit Rebreather (eCCR)
- ☐ mecanic Closed Circuit Rebreather (mCCR)
- ☐ electronic Semi-Closed Rebreather (eSCR)
- ☐ mecanic Semi-Closed Rebreather (mSCR)
- ☐ Do not use rebreather

15. 15. You mostly Trimix dive : \*

*Une seule réponse possible.*

- ☐ In your home country
- ☐ In foreign countries
- ☐ More on less equally between home and foreign countries
- ☐ Don't know / No position

16. 16. You mostly Trimix dive : (multiple answers allowed) \*

*Plusieurs réponses possibles.*

- ☐ In open sea
- ☐ In lake or quarry
- ☐ In cave
- ☐ Don't know / No position

17. 17. You mostly Trimix dive : \*

*Une seule réponse possible.*

- ☐ In very cold water (< 8°C)
- ☐ In cold water (between 8 and 20°C)
- ☐ In temperate water (between 20 and 25°C)
- ☐ In tropical water (> 25°C)

18. 18. You mostly Trimix dive : \*

*Une seule réponse possible.*

- ☐ In wetsuit
- ☐ In semi-dry wetsuit
- ☐ In drysuit WITHOUT heating system
- ☐ In drysuit WITH heating system

19. 19. Generally, in what context do you do your Trimix dives ? \*

*Une seule réponse possible.*

- ☐ Recreational
- ☐ Professional for teaching (instructor)
- ☐ Other professional activity (military, science, media...)
- ☐ Don't know / No position

20. 20. What is your highest level of certification in Trimix diving ? \*

*Une seule réponse possible.*

- ☐ Helitrox Diver / Adv Rec Trimix Diver / Extended Range (Prerogatives 45 meters)
- ☐ Normoxic Trimix Diver / Mixed Gas diver / Tec Trimix 65 / Technical Extended Range / PTH 70 (Prerogatives 60-70 meters)
- ☐ Hypoxic Trimix Diver / Expedition Trimix Diver / Adv Mixed gas Diver / Tec trimix Diver / PTH 120 (Prerogatives ≥ 100meters)

21. 21. In what Tek diving organization(s) are you certified for this highest level ?  
(multiple answers allowed) \*

*Plusieurs réponses possibles.*

- ☐ IANTD (International Association of Nitrox and Technical Divers)  
☐ TDI (Technical Diving International)  
☐ SSI (Scuba schools international)  
☐ FFESSM (French Federation of Underwater Studies and Sports)  
☐ PADI (Professional Association of Diving Instructors)  
☐ GUE (Global Underwater Explorers)  
☐ FEBRAS/LIFRAS (Francophone League of Research and Underwater Activities)

Autre : ☐ \_\_\_\_\_

### Dive decompression planning

22. 22. Which algorithm on your primary dive computer do you use to calculate your decompression ? \*

*Une seule réponse possible.*

- ☐ Bühlmann *Passer à la question 29*  
☐ Varying Permeability Model (VPM-B) *Passer à la question 33*  
☐ Reduced Gradient Bubble Model (RGBM) *Passer à la question 33*  
☐ Don't know / No opinion *Passer à la question 33*

23. 23. Which bottom mix (OC) or diluant gas (SCR/CCR) do you usually use for a 50-meters dive (expressed in Tx O<sub>2</sub>/He) ? \*

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24. 24. If you are qualified, which bottom mix (OC) or diluant gas (SCR/CCR) do you usually use for a 80-meters dive (expressed in Tx O<sub>2</sub>/He) ?

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25. 25. If you are qualified, which bottom mix (OC) or diluant gas (SCR/CCR) do you usually use for a dive beyond 100 meters (expressed in Tx O2/He) ?

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26. 26. During a rebreather dive with a fixed partial pressure of oxygen, what setpoint do you usually use during the bottom time ? \*

*Une seule réponse possible.*

- ☐ 1.1 bar
- ☐ 1.2 bar
- ☐ 1.3 bar
- ☐ 1.4 bar
- ☐ 1.5 bar
- ☐ 1.6 bar
- ☐ Do not dive with rebreather/ Don't know / No opinion

27. 27. During rebreather dive with a fixed partial pressure of oxygen, what setpoint do you usually use during the ascent time ? \*

*Une seule réponse possible.*

- ☐ 1.2 bar
- ☐ 1.3 bar
- ☐ 1.4 bar
- ☐ 1.5 bar
- ☐ 1.6 bar
- ☐ Do not dive with rebreather/ Don't know / No opinion

28. 28. During a rebreather dive with a fixed partial pressure of oxygen, what setpoint do you usually use from the 6-meters decompression stop ? \*

*Une seule réponse possible.*

- ☐ 1.3 bar
- ☐ 1.4 bar
- ☐ 1.5 bar
- ☐ 1.6 bar
- ☐ Don't dive with rebreather/ Don't know / No opinion

*Passer à la question 33*

### Gradient Factors for Bühlman

29. 22a. In the Bühlman decompression algorithm, which Gradient Factors (GF) low and high do you normally use for a 50-meters dive with a total ascent time < 60 minutes ? \*

*Une seule réponse possible par ligne.*

	10	20	30	40	50	60	70	80	90
Low GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. 22b. In the Bühlman decompression algorithm, which Gradient Factors (GF) low and high do you normally use for a 50-meters dive with a total ascent time ≥ 60minutes ? \*

*Une seule réponse possible par ligne.*

	10	20	30	40	50	60	70	80	90
Low GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. 22c. In the Bühlman decompression algorithm, which Gradient Factors (GF) low and high do you normally use for a 80-meters dive ? \*

*Une seule réponse possible par ligne.*

	10	20	30	40	50	60	70	80	90
Low GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. 22d. In the Bühlman decompression algorithm, which Gradient Factors (GF) low and high do you normally use for a dive beyond 100 meters ? \*

*Une seule réponse possible par ligne.*

	10	20	30	40	50	60	70	80	90
Low GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High GF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Incidents and illness during your Trimix diver career.

33. 29. During a Trimix dive, did you already presented a loss of consciousness who needed your buddie assistance ? \*

*Une seule réponse possible.*

- ☐ Yes, with certainty
- ☐ Yes potentially but doubtful
- ☐ Probably not but doubtful
- ☐ No, with certainty

34. 30. During a Trimix dive, have you already presented, in depth, an unusual euphoric feeling, concentration disorders or alteration in judgment and reasoning ? \*

*Une seule réponse possible.*

- ☐ Yes, with certainty
- ☐ Yes, potentially but doubtful
- ☐ Probably not but doubtful
- ☐ No, with certainty

35. 31. During a Trimix dive, have you already presented, in deep depth (beyond 100 meters), uncontrollable shaking of limbs or whole body (excluding shivering due to cold) associated or not with impaired vision, disappearing while ascending ? \*

*Une seule réponse possible.*

- ☐ Yes, with certainty
- ☐ Yes, potentially but doubtful
- ☐ Probably not but doubtful
- ☐ No, with certainty
- ☐ Never reached depth

Unusual intense tiredness

36. 32. Have you already felt an unusual intense tiredness after a Trimix dive ? \*

*Une seule réponse possible.*

- ☐ Yes, with certainty, once      *Passer à la question 37*
- ☐ Yes, with certainty, several times      *Passer à la question 37*
- ☐ Yes, potentially but doubtful      *Passer à la question 37*
- ☐ Probably not but doubtful      *Passer à la question 40*
- ☐ No, with certainty      *Passer à la question 40*

*Passer à la question 40*

### Management of an unusual tiredness

37. 32a. Did you receive (or take by yourself) normobaric oxygen after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

38. 32b. Did you seek medical advice after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

39. 32c. Did you receive a hyperbaric oxygen therapy after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No

## Osteoarticular pain

40. 33. Have you already felt arm, leg or articular pain, even transient, after a Trimix dive ? \*

*Une seule réponse possible.*

- ☐ Yes, with certainty, once      *Passer à la question 41*
- ☐ Yes, with certainty, several times      *Passer à la question 41*
- ☐ Yes, potentially but doubtful      *Passer à la question 41*
- ☐ Probably not but doubtful      *Passer à la question 46*
- ☐ No, with certainty      *Passer à la question 46*

*Passer à la question 46*

## Management of osteoarticular pain

41. 33a. Did you selfmedicate for pain after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

42. 33b. Did you receive (or take by yourself) normobaric oxygen after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

43. 33c. Did you seek medical advice after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes  
☐ No  
☐ Don't know / No position

44. 33d. Did you receive a hyperbaric oxygen therapy after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes  
☐ No

45. 33e. Have you got long-lasting sequels as discomfort or pain ? \*

*Une seule réponse possible.*

- ☐ Yes  
☐ No  
☐ Don't know / No position

#### Dizziness and hearing trouble

46. 34. Have you already experimented dizziness, vomiting, ear ringing or hearing impairment after a trimix dive (not related to otitis) ? \*

*Une seule réponse possible.*

- ☐ Yes, with certainty, once      *Passer à la question 47*  
☐ Yes, with certainty, several times      *Passer à la question 47*  
☐ Yes, potentially but doubtful      *Passer à la question 47*  
☐ Probably not but doubtful      *Passer à la question 51*  
☐ No, with certainty      *Passer à la question 51*

*Passer à la question 51*

## Management of dizziness or hearing trouble

47. 34a. Did you receive (or take by yourself) normobaric oxygen after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes  
☐ No  
☐ Don't know / No position

48. 34b. Did you seek medical advice after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes  
☐ No  
☐ Don't know / No position

49. 34c. Did you receive a hyperbaric oxygen therapy after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes  
☐ No

50. 34d. Have you got long-lasting sequels as dizziness or hearing discomfort ? \*

*Une seule réponse possible.*

- ☐ Yes  
☐ No  
☐ Don't know / No position

## Neurological trouble



51. 35. Have you already felt an acute back pain, tinglings or a decreased limb strength after a trimix dive ? \*

*Une seule réponse possible.*

- ☐ Yes, with certainty, once      *Passer à la question 52*
- ☐ Yes, with certainty, several times      *Passer à la question 52*
- ☐ Yes, potentially but doubtful      *Passer à la question 52*
- ☐ Probably not but doubtful      *Passer à la question 56*
- ☐ No, with certainty      *Passer à la question 56*

*Passer à la question 56*

### Management of neurological trouble

52. 35a. Did you receive (or take by yourself) normobaric oxygen after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

53. 35b. Did you seek medical advice after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

54. 35c. Did you receive a hyperbaric oxygen therapy after this dive (those dives) ?  
\*

*Une seule réponse possible.*

☐ Yes

☐ No

55. 35d. Have you got long-lasting sequels as difficulties for limb motricity or urination ? \*

*Une seule réponse possible.*

☐ Yes

☐ No

☐ Don't know / No position

#### Breathing trouble

56. 36. Have you already experimented breathing difficulty persistent after surfacing associated or not with foamy or bloody spits ? \*

*Une seule réponse possible.*

☐ Yes, with certainty, once      *Passer à la question 57*

☐ Yes, with certainty, several times      *Passer à la question 57*

☐ Yes, potentially but doubtful      *Passer à la question 57*

☐ Probably not but doubtful      *Passer à la question 63*

☐ No, with certainty      *Passer à la question 63*

*Passer à la question 63*

#### Management of breathing trouble

57. 36a. At what depth did this breathing difficulty appear (in meters) ? \*

*Une seule réponse possible.*

- ☐ on the surface
- ☐ 6 meters
- ☐ 10 meters
- ☐ 20 meters
- ☐ 30 meters
- ☐ 40 meters
- ☐ 50 meters
- ☐ 60 meters
- ☐ 70 meters
- ☐ 80 meters
- ☐ 90 meters
- ☐ > 100 meters
- ☐ Don't know / No position

58. 36b. What was the water temperature (in degree celcius) ? \*

*Une seule réponse possible.*

- ☐ In very cold water (< 8°C)
- ☐ In cold water (between 8 and 20°C)
- ☐ In temperate water (between 20 and 25°C)
- ☐ In tropical water (> 25°C)

59. 36c. What kind of equipment did you use during this dive ? \*

*Une seule réponse possible.*

- ☐ Open circuit
- ☐ Back mounted counter lung Rebreather
- ☐ Front mounted counter lung Rebreather
- ☐ Shoulder mounted counter lung rebreather

60. 36d. Did you do an unusual or intense physical effort (intense kicking, heavy load carrying...) during this dive ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

61. 36e. Did you receive (or take by yourself) normobaric oxygen after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position

62. 36f. Did you seek medical advice after this dive (those dives) ? \*

*Une seule réponse possible.*

- ☐ Yes
- ☐ No
- ☐ Don't know / No position