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TITLE PAGE

Cross-cultural adaptation and validation of the Portuguese Survey of musculoskeletal conditions, playing characteristics and warm-up patterns of golfers

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ABSTRACT

BACKGROUND: The University of Western Ontario Questionnaire for Musculoskeletal Conditions in Senior Golfers (MSK Golfers) was developed in Canada because of a lack of knowledge concerning musculoskeletal conditions directly related to golf play and warm-up, although the high injury incidence in golf practice. This lack of epidemiological measures also exists for the Portuguese golf population.

OBJECTIVE: The purpose of this study was to translate and cross-culturally adapt the MSK Golfers questionnaire into Portuguese and to test its construct validity and reproducibility.

METHODS: The MSK Golfers was translated from English to Portuguese and tested for psychometric properties. Sixty-one golfers, aged between 14 and 70 years and with at least 1 year of practice in golf, were recruited. The validity of the MSK Golfers was assessed by evaluating data quality (missing, floor and ceiling effects). Reproducibility analysis included intra-class correlation coefficients (ICC) (2,1) and Cohen's Kappa coefficient.

RESULTS: The ICC values for continuous items ranged from 0.634 to 0.998 with the exception of one item on golf activity. Kappa statistics for the categorical items ranged between 0.714 and 1.00.

CONCLUSIONS: The Portuguese version of the MSK Golfers, including playing characteristics and warm-up patterns of golfers, showed a high reliability for a golfing population with an age range of 14 to 70 years.

Keywords: Questionnaire, Sport Medicine, Musculoskeletal Injuries, Golf

1. INTRODUCTION

Golf is practiced by people of various ages and skill levels, who undertake widely varying amounts of practice, and have objectives including competition, leisure and tourism. Although golf is considered a sport with a moderate aerobic component, during the swing, the body segments and club form an energy chain to transfer to the ball the necessary velocity and trajectory that maximize distance and accuracy [1,2]. Usually, the variables used to measure swing outcome are ball displacement, shot accuracy, club head velocity, and club face angle, with performance being better when golfers focus on these swing outcomes rather than a given body movement [3]. To achieve these objectives, the golfer applies extreme muscle strength [4] at maximum ranges of motion [5], and with high-velocity joint movement [6,7]. The repeated execution of the swing during a round of golf can help to explain the high incidence of golf-related injuries. Lindsay et al [8] reported that more than 70% of golf players experienced injuries severe enough to result in them playing at an unsatisfactory skill level over a short period of time. Age-related golf practice, rates of participation, declines in strength, flexibility and coordination, and the efficacy of conditioning programs for improving performance and preventing injuries are major areas of research related to senior golfers [8,9]. Playing golf provides moderate intensity exercise for seniors, but musculoskeletal injuries can result from unsafe participation and/or due to preexisting musculoskeletal disorders. Cann et al [9] considered four specific concerns for the senior golfer: injury rehabilitation coordinated by therapists; warm up routines; club-fitting/coaching on proper technique; and pre-season conditioning programs. However, there is a lack of studies separating the effects of swing modification from physical rehabilitation, and on the effectiveness of changes in swing leading to a decrease in complaints such as low back pain [10].

The main complaint reported is low back pain, followed by elbow and wrist problems [6,11,12] but golf-related practice risks and health benefits have not been fully established and the available literature related to golf injuries is descriptive and controversial [12]. There is a need for tools that help the understanding of how exercise habits and injury incidence may be related with respect to the mechanisms of golf injuries. For instance, investigation is needed on the role of specific physical activities, skills and overuse (such as repeated swing trials at driving ranges) in the cause, prevention and rehabilitation of acute and chronic disorders [13]. Studies are also needed on changes in muscle activation, such as in the erector spinae, in golfers with low back pain [14]. The available literature shows the need for an instrument that can categorize the golfing population, particularly senior players [8,15]. Studies on temporal parameters in golfers with and without low back pain have used the Rolling Morris questionnaire [14,16], but there is a lack of instruments to satisfactorily group golfers, particularly in terms of relating low back pain to golf practice.

A survey of musculoskeletal conditions, playing characteristics and warm-up patterns in golfers was developed by Fox et al. [15] in response to the lack of information concerning musculoskeletal conditions affecting senior golfers. The questionnaire is a short participant-reported form, with 37 continuous (eg. golf handicap, minutes of warm-up) and categorical variables (eg. presence or absence of any injuries in the past 3 years related to golf activities, which caused the player to stop or modify their golf practice). The survey takes about 10 minutes to complete. Palmer et al. [17] applied this survey to 100 golf club members, reporting five groups of musculoskeletal (MSK) conditions: 36.8% of those surveyed had rheumatologic conditions; 18.4% had tendinitis; 18.4% reported muscle strains; 10.5% had vertebral/disk pathologies, and 15.8% noted other conditions. Half of the respondents reported having suffered from MSK conditions, and a large proportion of golfers indicated they spent just few minutes on warm-up and stretching exercises before performing the swing.

To be able to characterize Portuguese golf players and their usual golfing behavior, this survey of musculoskeletal conditions, playing characteristics and warm-up patterns of golfers (MSK Golfers) was translated and cross-culturally adapted for the Portuguese population. The Portuguese version was then tested for psychometric properties in terms of validity and reproducibility in Portuguese-speaking golfers.

2. METHODS

2.1. Study Design

The study was carried out using a two-step procedure: firstly, the MSK Golfers was translated and cross-culturally adapted; and secondly, the Portuguese version of MSK Golfers was tested for psychometric properties, reliability and validity, in a cross-sectional design with a 2-week follow-up for test-retest evaluation.

2.2. Translation and cross-cultural adaptation

Translation and cross-cultural adaptation of the MSK Golfers was performed according to international guidelines [18,19] under license from the original author. The English MSK Golfers was translated into Portuguese independently by two Portuguese native translators (one a doctor with experience in sports medicine and one a professional translator). The translations were discussed in a consensus panel to produce a preliminary version before it was translated back into English.

Two translators and native speakers of English, who were blinded to the original MSK Golfers, performed the back-translation. A second panel, consisting of a physiotherapist, a golf coach and the researchers in our group, reviewed all translations. The committee discussed discrepancies until consensus on a pre-final version was achieved. The goal of the pre-final Portuguese MSK Golfers was that it should be as

concise and easy to understand as possible. The pre-final Portuguese version of MSK Golfers was then tested on six golfers. None of the golfers had difficulties in understanding the meaning of items or responses. A suggestion to adapt the questions according to the Portuguese golf season was made which was not considered by the expert panel. A third expert consensus panel completed the final version of MSK Golfers. The English and Portuguese versions are presented in additional file (Appendix).

In total, 61 golfers were included in the study. Eligible participants were golfers with at least 1 year of practice in golf, aged 14 and over, who were able to speak, read and write in Portuguese. The exclusion criteria were having less than 1 year's golfing experience and being under the age of 14. Baseline characteristics for the test-retest subgroup are presented in Table 1. All participants received written and oral information about the study. Signed informed consent was obtained from all participants. The study was approved by the Ethical Committee of the Faculty of Human Kinetics - University of Lisbon (FMH – UL) in 2011.

Insert table 1 here.

2.3. Procedures and Measures

Participants consented to participate by filling in the MSK Golfers test and undergoing a retest, preferably with a two-week interval.

The MSK Golfers comprises 37 items focusing on golfers' habits. The original MSK Golfers was evaluated in senior golfers (over 50 years of age) and was found to be a reliable and valid measure of golfers' playing conditions [15], involving 6 questions related to demographics, 7 questions about the player's general history of illness and injury, 3 questions about the respondent's golf game, 2 questions about their golf swing,

6 questions about their golf course, 4 questions about the amount they played, 6 questions about warm-up and exercises and 3 questions about golf injuries (see Appendix).

2.4. Statistical Analysis

The validation procedures were similar to the original, in order to facilitate reproducibility and comparison. Agreement between answers to the test and re-test questionnaires was assessed, using a two-week interval. This period was chosen to avoid biases in answers due to factors such as fatigue, learning, or memory effects, and to provide close enough periods to avoid genuine changes in the variables that were being measured. Descriptive statistics for quantitative variables such as "*handicap*" or "*On average how many yards do you hit your drive*", and proportions of transformed ordinal variables such as "*Typically, how often are you aware of low back pain after playing 18 holes*?" were presented as mean ± standard deviation. Nominal qualitative variables such as "*Do you routinely perform any of your golf stretches away from the course/practice range*?" (Portuguese version) were presented as the respective frequencies.

The validity of the Portuguese MSK Golfers was assessed by evaluating data quality (missing, floor and ceiling effects). Test-retest reliability was analyzed using Cohen's Kappa statistic for items with nominal scales and using Intraclass Correlation Coefficients with two-way random single measures (2,1) (ICC) for items with quantitative and transformed ordinal scales [20-22]. All data were processed in SPSS 19.0 [23]. Pearson's r was also calculated for items with categorical scales, to provide a reference for assessing ICC.

3. RESULTS

The survey of musculoskeletal conditions, playing characteristics and warm-up patterns of golfers showed acceptable psychometric properties in terms of comprehensibility, consistency (agreement), construct validity and reproducibility when applied to golfers with an age range of 14–70 years.

The reliability results of the Past Medical History items showed a high agreement between the two occasions (Table 2), despite the item about knowing any Contraindications to Activity showing a low Kappa value (0.659); overall reliability was acceptable. The Kappa values for Heart Condition, Chest Pain with Activity and chest Pain at Rest are not shown because there was perfect agreement.

Insert table 2 here.

The items that measured the playing level of the subject (Table 3) showed a high level of agreement between the two occasions, with the worst value being the ICC for the “On average, how many yards do you hit your drive” showing an ICC of 0.837. The variable “Are your golf clubs customized to fit your golf swing” (fitting) showed a difference between the two occasions of 3.3%, but with a high ICC of 0.997.

Of the Transportation on Golf Course Items (Table 4), only the “*On average, how often do you push your clubs around the course on a cart*?” item had an ICC lower than 0.9 (ICC=0.705). All the others items had ICC values higher than 0.9.

Insert table 3 and table 4 here.

All Reliability of Frequency of Golf Activity Items (Table 5) showed an ICC higher than 0.7, with the exception of the Class Sessions Off Season item (ICC=0.456), being the lowest value found in the entire questionnaire. Reliability of Frequency of Golf Activity items achieved a maximum ICC value of 0.920. For these items it was noted that the lower handicap players tended not to respond because they undertake daily practice.

Insert table 5

Interestingly, despite the time used for warm-up (Table 6) ranging up to 9 minutes, and this item showing an ICC of 0.793, some golfers had no specific warm-up routine habits. The duration of the warm-up used for stretching was 3.95 and 3.64 minutes for the first and second occasions, respectively (ICC=0.832). The highest concordance found for the reliability of warm-up and exercise habits items was in the question "*Do you routinely participate in a cardiovascular conditioning program apart from golfing*?" showing a kappa of 0.964, but the other nominal variables gave kappa values higher than 0.7.

Insert table 6

Table 7 indicates the reliability levels for the injury items. The new added question "*How much time have you stopped*" achieved an ICC of 0.672, and golfers with injuries reported having stopped for 25 and 27 days for occasions 1 and 2, respectively. The question that related low back pain to sports practice also yielded a high ICC of 0.905. Both the general injury incidence and musculoskeletal injury incidence were higher than 20%, showing a high kappa value.

177

178 Insert table 7

179

180 ## 4. DISCUSSION

181 In this article the process of cross cultural adaptation of the MSK golfer to
182 Portuguese was described as well as its validity and reliability.

183 The survey of musculoskeletal conditions, playing characteristics and warm-up
184 patterns of golfers for the Portuguese population showed a high reliability. This study
185 took into account the recommendations stated by Portney & Watkins [21] for ICC values.
186 A good reliability for ICC is considered to be ≥ 0.75, however, the authors stated that for
187 most clinical measurements, reliability should exceed 0.90 to ensure reasonable validity.
188 In this study, of the variables measured, 44.5% exceeded ICC = 0.9 and 72.4% were
189 above ICC = 0.7. Also, in the original version, the named "skill" items were highly reliable,
190 with ICC's above 0.90, and "Transportation on the Course" variables ranged between
191 0.692 and 0.921. The Portuguese validation showed "skill" ICC's higher than 0.9 and
192 close to 1.0 (Table 3). Only the drive range had an ICC = 0.837. For the Transportation
193 on Golf Course Items, the Portuguese version also showed ICC's greater than 0.9, with
194 the exception of "Proportion of Rounds Push" item (ICC = 0.705).

195 The Portuguese version includes a question to complement the survey section
196 on golf-related injuries. Question 35 states "*Have you suffered any injuries in the past 3*
197 *years while playing or practicing golf, which caused you to stop or modify your game?*"
198 When the respondent answers "*yes,*" in the Portuguese version he/she is referred to the
199 question "*How much time have you stopped*". The unit measure of this question is "*days*".
200 Original authors felt this upgrade very useful.

The reliability of Past Medical History items was similar to the original version with the Kappa showing a high agreement, but the first three items (heart condition, chest pain with activity, and Chest Pain at Rest) in the present study showed a frequency of 100% for the answer “no” on both occasions. The Kappa values for these variables are not presented because they are determined by cross-tabulating ratings for two coders, and the agreement expected by chance is determined by the marginal frequencies of each rate [20]. In the original version more than 39.5% of respondents answered “Orthopaedic Problem Aggravated by Activity”, while the present study had 16.7% of respondents in this category. This group of items was based on the Physical Activity Readiness (PAR-Q) form from Public Health Agency of Canada and the Canadian Society for Exercise Physiology [24], validated for people with ages ranging from 15 to 69 years. In the present study one respondent was 14 years old, which presents a limitation. Fox et al [15] noted similar age-related limitations with the Par-Q (British Columbia Ministry of Health, 1978 cited [15]), because their version was validated for individuals aged 18 to 69 and they had participants aged 70 years and older. They reported the use of Par-Q only as an accepted measure of general health, not as a screening device and not critical in these study types.

Comparing Portuguese and Canadian versions of the survey with respect to “Warm-up and Exercise Habits”, Portuguese golfers appeared to spend more time warming-up prior to playing, with 9.15±5.82 minutes on the first occasion and 9.02±4.66 minutes on the second occasion, while the Canadian golfers’ mean values on occasions one and two were 4.47+0.59 and 4.07+0.54 minutes, respectively. The ICC’s for both versions were similar, ICC = 0.793 in the Portuguese version and ICC = 0.750 for the Canadians. The amount of this period which was devoted to stretching showed for occasions one and two: 3.95±3.61 and 3.64±3.98 for the Portuguese participants (ICC = 0.832) and 2.9±0.49 and 2.7±0.50 minutes for Canadians, respectively (ICC = 0.791). Parmer et al. [17] considered senior’ golf warm-up activities as “surprisingly limited.”

They found answers indicating that some spent less than 1 minute, both in warm-up (16.6%) and stretching (36%), and that over 75% of all participants spent less than five minutes. Golfers with MSK conditions spent more time warming-up than those who had not had that experience.

The imbalance in the relationship between the samples in terms of sex ratios is related to the actual Portuguese golf population, and also applies to specific injuries. In the literature, there is a higher percentage of male golfers [25,26], but shoulder, knee and elbow injuries associated to overuse were found to be similar in both sexes [11,27]. The findings on the most likely area of injury in female golfers were elbow and lower back, related to overuse, poor conditioning, and incorrect swing mechanisms [28].

In this study, the injury incidence was low compared with the data reported by Lindsay et al [8] and Fox et al [15]. However, both validations showed a relative absence of self-identified musculoskeletal injuries linked to golf participation. These differences could be associated with the inclusion of young athletes in the present study. Compared with the original MSK Golfers test, the Portuguese version covered a wider age range. Of the participants, 6.6% of the participants were aged 14 to 18 years, 45.9% were between 18 and 40 years of age, 31.1% were between 40 and 60, and the other 16.4% were over 60 years of age. The differences found between genders reflect the Portuguese reality in golf. Fox et al [15] used participants aged 50 years and older, and one-half of their respondents stated a pre-existing musculoskeletal condition affecting golf practice. Cabri et al. [12] reported that practicing golf for long periods could be the main reason for the prevalence of injuries in players aged between 50 and 65 years. This population has more probability of injury due to age-related changes such as decreasing strength, flexibility, coordination and balance. Also, many senior golfers already have preexisting MSK conditions [17]. Recreational golfers are not exposed to the repetitive stresses experienced by professional players, who spend significant time practicing at the driving range, the putting green, and playing the course [15,28]. Recreational golfers

usually have more options for varying the type of swing, method of transport and total duration of play [17]. Controversially, injury rates in amateur golfers may vary between mean values of 1.19–1.31 per year, while professionals have a higher prevalence with ratios near 2 injuries per year due to the time spent playing [27], rather than technical aspects or warm-up habits [28,29].

The health benefits of golf are related to the amount of physical activity during the game, including the method of transportation around the course. The respective items in the Portuguese version of the test showed a higher reliability than the original. In the Canadian version, the proportion using power carts was approximately 71%, unlike the 17% reported by Palmer et al. [17] and the 20% in the present study, according to which the respondents carry their clubs for approximately 43% of the rounds. Similar, Palmer et al. [17] reported that two-thirds of the respondents had a preference for walking the golf course at least 50% of the time. Careless driving and improper use of power carts were associated with traumatic injuries [30,31].

The question about the incidence of low back pain after 18 holes showed a mean value of about 18% of the time. This result is lower than expected, since low back pain is the major complaint among golfers [32-35] and is the main cause for a reduction in playing and skill level decrease in elite golfers [32]. Nevertheless, it is necessary take into account the specificity of the question when it asks “after 18 holes”, in other words, after a full round of the golf course. Besides the question specificity, Palmer et al. [17] also found higher incidence of low back pain, with 42% of the respondents having complaints.

5. CONCLUSION

The survey of musculoskeletal conditions, playing characteristics and warm-up patterns of golfers for the Portuguese population showed high reliability. The question

about golf practice time lost due to injury, which was added in the Portuguese version, also showed good reliability. In the Portuguese version the age range was larger than in the original version, but the reliability remained high. This survey demonstrates an excellent applicability and reliability and can be regarded as valid and useful for the characterization of the Portuguese golf population.

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TABLES

Table 1 – Subject Characteristics

	N	Age (years)	Height (m)	Mass (kg)	Experience (years)
Male	56	42.4±14.76	1.75±0.1	78.6±10.6	11.1±6.1
Female	5	34.6±19.9	1.66±0.1	65.6±7.6	8.2±4.7
Total	61	41.8±15.2	1.74±0.1	77.6±11.0	10.9±6.0

Table 2 – Reliability of Past Medical History Items

	Frequency (occ1)		Frequency (occ2)		*Kappa*
	Yes (%)	**No (%)**	**Yes (%)**	**No (%)**	
Heart Condition	-	100	-	100	-
Chest Pain with Activity	-	100	-	100	-
Chest Pain at Rest	-	100	-	100	-
Loss of Balance or Loss of Consciousness	5.1	94.9	10	90.0	0.733
Orthopaedic Problem Aggravated by Activity	16.7	83.3	16.4	83.6	0.880
Ingesting Blood Pressure or Heart Medication	13.1	86.9	11.5	88.5	0.924
Known Contraindication to Activity	3.3	96.7	1.6	98.4	0.659

Table 3 – Reliability of Subject Skill Items

	Mean±SD (occ1)	Mean±SD (occ2)	ICC	r
Years Played	10.93±6.08	10.89±6.13	0.998	0.998
Driver Range	197.46±28.89	196.39±31.09	0.837	0.838
7-Iron Range	119.34±21.46	120.45±21.42	0.970	0.971
Handicap	17.54±9.25	17.62±9.24	0.997	0.997

	Frequency (%)		Frequency (%)		*Kappa*
	Yes	**No**	**Yes**	**No**	
Fitting	36.1	63.9	32.8	67.2	0.855
Handed	-	100	-	100	-
Swing Side	98.4	1.6	98.4	1.6	1.0

Table 4 – Reliability of Transportation on Golf Course Items by proportion of rounds

	Mean±SD (occ1)	Mean±SD (occ2)	ICC	r
Using Power Cart	20.08±28.93	20.25±28.92	0.992	0.992
Carrying Clubs	42.13±40.32	44.18±40.77	0.943	0.944
Pulling Clubs	29.84±32.54	31.48±32.79	0.952	0.952
Pushing Clubs	8.55±18.98	10.74±22.41	0.705	0.714
Using Electric Cart	12.46±29.41	11.15±27.51	0.946	0.948

Table 5 – Reliability of Frequency of Golf Activity Items

	Mean±SD (occ1)	Mean±SD (occ2)	ICC	r
Rounds Played				
Early Season	5.60±4.76	5.95±5.49	0.914	0.924
Mid-Season	7.33±5.86	8.20±7.26	0.881	0.907
Late Season	5.64±4.53	6.55±6.18	0.773	0.819
Off Season	6.29±6.67	6.31±6.79	0.863	0.862
Practice Sessions				
Early Season	4.71±5.36	4.67±4.7	0.888	0.894
Mid-Season	5.42±8.42	5.16±5.42	0.796	0.872
Late Season	4.98±5.52	4.70±4.84	0.917	0.925
Off Season	5.14±6.83	4.95±4.81	0.761	0.805
Putting Freq.				
Early Season	3.55±4.91	3.40±3.67	0.901	0.939
Mid-Season	4.09±8.12	3.84±4.58	0.717	0.834
Late Season	3.67±5.02	3.48±4.09	0.920	0.939
Off Season	4.60±7.60	3.76±4.33	0.775	0.906
Class Sessions				
Early Season	1.51±2.89	1.24±1.38	0.634	0.816
Mid-Season	1.52±3.62	1.48±2.59	0.903	0.952
Late Season	1.55±2.85	1.28±1.57	0.708	0.837
Off Season	1.76±4.50	1.20±1.34	0.456	0.836

Table 6 – Reliability of Warm-up and Exercise Habits

	Mean±SD (occ1)		Mean±SD (occ2)		ICC	r
Warm-up	9.15±5.82		9.02±4.66		0.793	0.810
Stretching	3.95±3.61		3.64±3.98		0.832	0.849
	Frequency (%)		**Frequency (%)**		***Kappa***	
	Yes	**No**	**Yes**	**No**		
Stretching During Round	24.6	75.4	27.9	72.1	0.746	
Stretching Away from Course	39.3	60.7	39.3	60.7	0.794	
Strengthening Program	48.3	51.7	52.5	47.5	0.797	
Endurance Program	61.7	38.3	61.0	39.0	0.964	

Table 7 – Reliability of Injury Items

	Mean±SD (occ1)		Mean±SD (occ2)		ICC	r
Stopped Playing because of Injury	24.55±9.34		27.27±13.30		0.672	0.714
Low Back Pain after 18 holes	17.54±20.81		18.64±24.91		0.905	0.919
	Frequency (%)		**Frequency (%)**		***Kappa***	
	Yes	**No**	**Yes**	**No**		
Injury incidence	21.7	78.3	25.4	74.6	0.906	
Musculoskeletal Injury	23.3	76.7	23.3	76.7	0.814	

APPENDIX

Original Version

UNIVERSITY OF WESTERN ONTARIO

Musculoskeletal Conditions in Senior Golfers Questionnaire

First, we would like to ask you a few questions about yourself:

1. What is your date of birth? _____ _____ _____
(day) (month) (year)

2. What is your height? _____

3. What is your weight? _____

4. Are you male or female? (circle the number of your answer)

1. male
2. female

5. How many years have you been playing golf? _____

6. Are you right or left handed? (circle)

1. right
2. left

Now we would like to ask you about your history of illness and injuries:

7. Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor? (circle)

1. yes
2. no

8. Do you feel pain in your chest when you do physical activity? (circle)

1. yes
2. no

9. In the past month, have you had chest pain when you were not doing physical activity? (circle)

1. yes
2. no

10. Do you ever lose your balance because of dizziness or do you ever lose consciousness? (circle)

1. yes
2. no

11. Do you have a bone or joint problem that could be made worse by changes in physical activity? (circle)

1. yes
2. no

12. Is your doctor currently prescribing drugs (for example water pills) for your blood pressure or heart condition? (circle)

1. yes
2. no

13. Do you know of any other reason why you should not do physical activity? (circle)

1. yes
2. no

If yes, please specify:

Next, we would like to ask a few questions about your golf game:

14. On average, how many yards do you hit your driver? _____

15. On average, how many yards do you hit your 7 iron? _____

16. What is your golf handicap? _____

(Please give an approximate handicap if you do not have an official one)

Now we would like to ask you about your golf swing:

17. Do you swing your golf club left or right? (circle)

    1. left
    2. right

18. Are your golf clubs customized to fit your golf swing? (circle)

    1. yes
    2. no

We would like to ask you how you get around the golf course:

19. On average, how often do you use a power cart around the course? (circle)

0% of the time …15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% of the time**

20. On average, how often do you carry your clubs around the course? (circle)

0% of the time …15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% of the time**

21. On which side of your body do you carry your clubs? (circle)

    1. left
    2. right
    3. alternate
    4. double strap

22. On average, how often do you pull your clubs around the course on a cart? (circle)

0% of the time …15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% of the time**

23. On average, how often do you push your clubs around the course on a cart? (circle)

0% of the time …15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% of the time**

24. On average, how often do you use an electronic cart to carry your clubs? (circle)

0% of the time …15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% of the time**

We would like to know how much golf you play.

25. On average, how many rounds of golf do you play *in a single month* during the following times:

Early Season (April - May) _____

Mid Season (June - August) _____

Late Season (September - October) _____

Off Season (November - March) _____

26. On average, how many times *in a single month* do you go to the practice range during the following times: Early Season (April - May) _____

Mid Season (June - August) _____

Late Season (September - October) _____

Off Season (November - March) _____

27. On average, how many times *in a single month* do you practice putting?

Early Season (April - May) _____

Mid Season (June - August) _____

Late Season (September - October) _____

Off Season (November - March) _____

28. On average, how many times *in a single month* do you take lessons from a golf professional?

Early Season (April - May) _____

Mid Season (June - August) _____

Late Season (September - October) _____

Off Season (November - March) _____

We would like to ask you about your warm-up.

29. On average, how much time do you spend warming up prior to playing or practicing? _____ minutes

30. How much of this warm up time is spent stretching? _____minutes

31. Once you've started a round, do you routinely perform any golf stretches while out on the course? (circle)

1. yes
2. no

Now, just a few questions about other exercises you might do.

32. Do you routinely perform any of your golf stretches away from the course/practice range? (circle)

1. yes
2. no

33. Do you routinely do any strengthening exercises? (circle)

1. yes
2. no

34. Do you routinely participate in a cardiovascular conditioning program apart from golfing? (circle)

1. yes
2. no

Finally, we would like to ask about your golfing injuries.

35. Have you suffered **ANY** injuries in the past 3 years while playing or practicing golf, which caused you to stop or modify your game for at least 2 weeks? (circle)

1. yes
2. no

if yes, please tell us which part(s) and side of your body was hurt

_____

and the medical name or diagnosis of each injury, if you know it (e.g., tennis elbow, low back strain)

_____

36. Typically, how often are you aware of low back pain after golfing 18 holes? (circle)

0% of the time …15% ..... 30% ..... 50% ..... 65% ..... 80%..... **100% of the time**

37. Have you suffered **ANY** muscle or joint conditions in the past 3 years which affected your golf game? (circle)

1. yes
2. no

if yes, please tell us which part(s) and side of your body was hurt

and the medical name or diagnosis of each condition, if you know it

_____

Thank you very much for completing this questionnaire

Portuguese version

Universidade Técnica de Lisboa
Faculdade de Motricidade Humana

Questionário sobre condições músculo-esqueléticas em jogadores de golfe adultos
(Fox, Lindsay & Vandervoort,2002)

Em primeiro lugar, gostaríamos de lhe fazer algumas perguntas sobre si:

1. Qual é a sua data de nascimento? _____ _____ _____
(dia) (mês) (ano)

2. Qual é a sua altura? _____cm

3. Qual é o seu peso? _____kg

4. Sexo masculino ou feminino? (deve escolher a opção adequada assinalando-a com um círculo no número correspondente à sua resposta)

1. Masculino
2. Feminino

5. Há quantos anos joga golfe? _____ anos/ meses **(riscar o que não interessa)**

6. É destro ou esquerdino? (Círculo)

1. Destro
2. Esquerdino

Gostaríamos agora de o questionar acerca do seu histórico de doenças e lesões:

7. O seu médico alguma vez lhe disse que tinha um problema cardíaco e que só deveria fazer actividade física recomendada por um médico? (Círculo)

1. Sim
2. Não

8. Sente dor não peito quando faz exercício físico? (círculo)

1. Sim
2. Não

9. No último mês, alguma vez teve dor no peito quando não estava a fazer actividade física? (Círculo)

1. Sim
2. Não

10. Alguma vez sentiu tonturas chegando a perder o equilíbrio ou alguma vez desmaiou?

1. Sim
2. Não

11. Tem algum problema ósseo ou articular que possa ser agravado pela prática de actividade física? (Círculo)

1. Sim
2. Não

12. Toma medicamentos (por exemplo, diuréticos) para a tensão arterial ou para problemas cardíacos? (Círculo)

1. Sim
2. Não

13. Conhece algum outro motivo que o possa impedir de fazer exercício físico? (círculo)

1. Sim
2. Não

Em caso afirmativo, especifique, por favor: _____

De seguida, gostaríamos de fazer algumas perguntas sobre o seu jogo/prática de golfe:

14. Em média, quantos metros bate com o seu driver? _____

15. Em média, quantos metros bate com o seu ferro 7? _____

16. Qual é o seu handicap? _____

(Refira o seu handicap aproximado, caso não tenha um oficial)

Gostaríamos agora de o questionar sobre o seu swing:

17. O seu swing é destro ou esquerdino? (Círculo)

    1. Esquerdino
    2. Destro

18. Os seus tacos de golfe estão adaptados (fitting) ao seu swing? (Círculo)

    1. Sim
    2. Não

Gostaríamos de perguntar como se desloca no campo de golfe:

19. Em média, com que frequência usa o *buggie* durante o percurso de jogo? (Círculo)

0% do tempo ..... 15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% do tempo**

20. Em média, com que frequência transporta os seus tacos durante o percurso de jogo? (Círculo)

0% do tempo ..... 15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% do tempo**

21. De que lado do corpo transporta os seus tacos? (Círculo)

    1. Esquerda
    2. Direito
    3. Alternado
    4. Duas alças

22. Em média, com que frequência puxa os seus tacos num trolley durante o percurso de jogo? (Círculo)

0% do tempo ..... 15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% do tempo**

23. Em média, com que frequência empurra os seus tacos num trolley durante o percurso de jogo? (Círculo)

0% do tempo ..... 15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% do tempo**

24. Em média, com que frequência usa um trolley eléctrico para transportar os seus tacos? (Círculo)

0% do tempo ..... 15% ..... 30% ..... 50% ..... 65% ..... 80% ..... **100% do tempo**

Gostaríamos de saber qual a sua regularidade na prática de golfe.

25. Em média, quantas voltas joga num só mês durante as seguintes épocas:

Época inicial (Abril-Maio) _____

Época média (Junho-Agosto) _____

Época final (Setembro-Outubro) _____

Fora de época (Novembro-Março) _____

26. Em média, quantas vezes num só mês vai para o *driving range* treinar durante as seguintes épocas:

Época inicial (Abril-Maio) _____

Época média (Junho-Agosto) _____

Época final (Setembro-Outubro) _____

Fora de época (Novembro-Março) _____

27. Em média, quantas vezes num só mês treina o putting?

Época inicial (Abril-Maio) _____

Época média (Junho-Agosto) _____

Época final (Setembro-Outubro) _____

Fora de época (Novembro-Março) _____

28. Em média, quantas vezes num só mês tem aulas com um profissional de golfe?

Época inicial (Abril-Maio) _____

Época média (Junho-Agosto) _____

Época final (Setembro-Outubro) _____

Fora de época (Novembro-Março) _____

Gostaríamos de o questionar sobre o seu aquecimento.

29. Em média, quanto tempo dedica ao seu aquecimento antes de jogar ou praticar? _____ minutos

30. Quanto tempo do aquecimento dedica a alongamentos? _____minutos

31. Uma vez iniciada uma volta, costuma realizar alguns alongamentos específicos para o golfe? (círculo)

    1. Sim
    2. Não

Agora, apenas algumas perguntas sobre outros exercícios que possa fazer.

32. Por rotina, executa alguns dos seus alongamentos específicos para o golfe quando não está a praticar golfe? (círculo)

    1. Sim
    2. Não

33. Costuma realizar exercícios de força? (círculo)

    1. Sim
    2. Não

34. Costuma realizar treino cardiovascular, para além do golfe? (círculo)

    1. Sim
    2. Não

Finalmente, gostaríamos de lhe perguntar sobre as lesões sofridas durante a prática de golfe.

35. Sofreu ALGUMA lesão nos últimos 3 anos, durante o jogo ou prática de golfe, que o tenha levado a parar ou modificar o seu jogo? (círculo)

    1. Sim _____ (refira o tempo de paragem) _____ (dias)
    2. Não

em caso afirmativo, diga-nos qual/quais a(s) parte(s) e lado do seu corpo ficou lesionada

_____

e a designação clínica ou diagnóstico de cada lesão, se souber (ex., “cotovelo de tenista”, desconforto lombar)

_____

36. Por norma, com que frequência sente dor lombar depois de fazer 18 buracos? (círculo)

0% do tempo …15% ..... 30% ..... 50% ..... 65% ..... 80%..... 100% do tempo

37. Sofreu ALGUM problema muscular ou articular nos últimos 3 anos que tenha afectado a sua prática de golfe? (círculo)

    1. Sim
    2. Não

em caso afirmativo, diga-nos qual/quais a(s) parte(s) e lado do seu corpo ficou afectado(s)

_____

e a designação clínica ou diagnóstico de cada problema, se souber.

_____

Muito obrigado por ter respondido a este questionário