

Date: April 9, 2019

Title: Importance of Sock Type in the Development of Foot Lesions on Low-difficulty, Short Hikes.

Description of document: Materials and Methods (Study Protocol: description of the clinical study, including objective and design. Statistical Analysis Plan (description of the statistical considerations for analyzing the data collected in the study.) results of the study (Results obtained in the study) and Supplementary data (protocol of measures and other tables).

Materials and Methods

1. Permission and participants

All participants signed an informed consent form, and permission for the study was obtained from the Bioethics Committee (reference 126/2016). The admission criteria were: be of legal age, have no current health problems that would hinder or prevent participation in the hike, and carry a backpack weighing less than 3 kg. Participants were asked to use specific hiking footwear (light, flexible, soft-soled, with good grip and breathable material) (low top hiking shoes), based on earlier studies [38-40]. They were also asked to do the entire hike following the instructions of an experienced guide and to not remove their footwear or socks before examination by a podiatrist.

2. Sock type and interventions performed

Socks were of two types: technical socks, designed for high performance sports use (Lurbel brand, models Tierra and Set), and non-technical socks for everyday use. The socks had different composition: Tierra (50% regenerativ, 25% cool-teak, 17% polyamide ions, 8% lycra); Set (75% cotton, 17% polyamide, 8% lycra) and cotton (98% cotton, 2% elastane). The technical socks had reinforced weave in the toe, metatarsal and heel areas.

Participants were examined by trained podiatrists on three occasions to measure the study variables: at the start of the walk (km 0), at the end of the asphalt section (half way; km 14.5) and at the end (km 29.6). The protocol of measures was followed (supplementary data).

3. Study design, route description and participants

A clinical trial randomized, double blinded was designed to analyze the influence of different types of socks (technical and non-technical) on the appearance of foot injuries after a low-difficulty, short-term sport activity. The study follow the CONSORT criteria.

To carry out the study, the hiker was previously registered. The researchers contacted the participants to explain the study. In addition, data on age, sex, foot number and associated diseases that prevented the completion of the route were obtained. One hour before starting the route, researchers who did not intervene in the exploration process, made registration and delivery to each hiker of two technical socks (1 Set and 1 Tierra) appropriate to the size of the foot and randomly for the right foot (RF) and left foot (LF). Likewise, it proceeded for non-technical socks (cotton), but in this case both feet wore the same type of sock. All the participants before the initial exploration had their socks put on for half an hour. The hike was low-difficulty, over a short distance [37]. The first 14.5 km were on asphalt and the last 15.1 km on dirt. The height range was 189 m and the pace was moderate, at 5 km/hour. The sample comprised 109 participants (53 men and 56 women). Two women had to give up the hike for personal reasons. Both wore technical socks.

The Table 1 explain the anthropometric characteristics of the participants and the distribution of the socks, differentiating by sex and feet.

Table 1. Anthropometric variables, total sock distribution and sock distribution by gender.

Anthropometric variable	Total	Male	Female
Gender		48.6%	51.4%
Age (years)	44± 25	49± 21	36± 24
Height (meters)	1.7± 0.1	1.7± 0.1	1.6± 0.1
Weight (kg)	68.8±19.4	81.0±13.5	61.4±7.8

BMI		24.9± 3.6	26.6± 3.7	23.5± 9.1
Sock type distribution		Total %	Male %	Female %
LF sock	Tierra	40.4 (n=44)	35.8 (n=19)	44.6 (n=25)
	Set	29.4 (n=32)	35.8 (n=19)	23.3 (n=13)
	Cotton	30.2 (n=33)	28.4 (n=15)	32.1 (n=18)
RF sock	Tierra	29.4 (n=32)	35.8 (n=19)	23.3 (n=13)
	Set	40.4 (n=44)	35.8 (n=19)	44.6 (n=25)
	Cotton	30.2 (n=33)	28.4 (n=15)	32.1 (n=18)

Km=Kilometres, n=sample size, %=Percentage, ±=Standard deviation, kg=Kilogrammes, BMI=Body mass index, LF=Left foot, RF=Right foot.

4. Study variables

The qualitative variables analysed were: gender, body mass index (BMI) by rank, sock type, dermal lesions (all lesions developed during the hike, both keratopathies with keratinisation disorder and dermatopathies without keratinisation disorder), muscle lesions (all lesions developed during the hike) and nail lesions (all nail lesions developed during the hike, both traumatic and non-traumatic onychopathies). The height and weight data obtained were used to calculate BMI by rank, interpreted according to the World Health Organization classification [41] (Table 2).

Table 2. Qualitative variables and categories. BMI= Body mass index.

Qualitative variable	Category							
Gender	Male		Female					
BMI	Underweight (<18.5)		Normal weight (18.5-24.99)		Overweight (25.0-29.9)		Obese (>30)	
Sock type	Technical (Tierra)		Technical (Set)		Non-technical (Cotton)			
Skin lesion	Blister	Injury (Erosion & chafing)		Reddened skin		Urticaria	Crevice	Heloma
Muscle lesion	Pain due inadequate warm		Inflammation	Muscle discomfort		Sprain		
Nail lesion	Onychocryptosis		Subungueal hematoma					

The quantitative variables analysed were: age, body mass index (BMI), temperature of each foot measured in two aspects (plantar and dorsal), and perimeter of each foot, measured in four areas (dorsal aspect of toes, instep, heel, tibia).

5. Measuring instruments

The height range and the pace hikers was controlled with a Garmin ETREX 20X GPS (Global Positioning System). Perimeter was measured with a flexible, non-elastic tape measure (Lawton 18-0160, precision 1 mm). Weight was measured using scales (Tanita UM-076, precision 0.1kg) and height was measured using the weight rod of different scales (SECA 704, precision 1 mm).

Temperatures were taken with an infrared thermometer (FTN Medisana, precision 0.18° C), calculating the mean of the three measurements. An intra rate of the measure was done to detect the error of the measure of the temperature, obtaining an error of 0.1452.

6. Statistical tests

The data were analysed using IBM SPSS Statistics for Windows, Version 22.0 (IBM, Armonk, New York). The statistical treatment consisted of data study and cleansing, descriptive variable analysis, normality test (Shapiro-Wilks test). The studies of normality were no significant (p-values between 0.000 y 0.044).

Quantitative variables depending on whether the samples were paired or independent, Friedman's test for related samples and Kruskal-Wallis was performed for independent samples, both with Bonferroni correction for multiple testing was applied. For the qualitative variables the

chi-square or Fisher's exact test with a significance level of $\alpha = 0.05$ was carried out. The variables analysed by logistic regression were quantified using the ODDS Ratio (OR). The effect size for the different variables was also calculated. First, for Kruskal-Wallis tests, the variation was between 0.443 y 0.888, and for Friedman tests, the variation was between 0.336 y 0.623. Therefore, in both cases the effect size could be considered median and high.

All p-values = 0.000 are less than 1 per 1000.

Results

After completing the first part of the hike, the most frequent dermal lesions among participants were blisters and erosions.

Table 3. Prevalence of skin, muscle and nail lesions during the 0-14.5 km of the hike by sex.

(0-14.5 km)		Female						Male					
		Tierra %		Set %		Cotton %		Tierra %		Set %		Cotton %	
Skin lesion	%Tt.	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF
Blister	12.8	0.0	4.0	8.0	7.7	22.2	27.8	0.0	5.3	5.3	0.0	6.7	13.3
Erosion	2.8	0.0	0.0	0.0	0.0	11.1	5.6	0.0	0.0	0.0	0.0	6.7	0.0
(0-14.5 km)		Female						Male					
		Tierra %		Set %		Cotton %		Tierra %		Set %		Cotton %	
Muscle lesion	%Tt.	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF
Pain due inadequate warm	21.1	23.1	27.8	8.0	7.7	27.8	27.8	10.5	15.8	10.5	0.0	13.3	13.3
Inflammation	2.8	0.0	4.2	4.0	0.0	0.0	0.0	0.0	10.5	10.5	0.0	0.0	0.0
Muscle discomfort	1.8	0.0	0.0	0.0	0.00	0.0	0.0	5.3	5.3	0.0	0.0	0.0	0.0

Km=Kilometres, %=Percentage, Tt=Total, RF=Right foot, LF=Left foot.

None of the other dermal lesions included in the evaluation (reddened skin, urticaria, crevice and heloma) were detected. Significant differences were found between the percentage of dermal lesions in hikers wearing technical socks (6.6%) and non-technical socks (36.4%) (p-value=0.000). The women had a higher percentage of dermal lesions (23.2%) than the men (7.5%) (p-value=0.034), regardless of sock type. Moreover, the percentage of women with dermal lesions was significantly higher among wearers of non-technical socks (50%) than in wearers of technical socks (10.5% had lesion) (p-value=0.002). Particularly the women presented more blisters in both RF and LF when they wore cotton sock compared to the Tierra and Set socks (RF p-value = 0.050, LF p-value = 0.042). In the case of men, there was no difference in any of the skin lesions at 14.5 km on any foot compared to the sock used (Table 3). The most frequent muscle lesions at the end of the first part of the hike were pain due inadequate warm (21.1%), inflammation (2.8%) and muscle discomfort (1.8%). No sprains or nail disorders were detected at the end of the first part of the hike. No difference between any of muscle lesions analyzed and technical and non-technical socks were found. By sex, no differences were found regarding technical and non-technical socks or concerning the model used sock on each foot (Table 3).

Table 4. Prevalence of skin, muscle and nail lesions during the 14.5-29.6 km of the hike by sex.

(14.5-29.6 km)		Female						Male					
		Tierra %		Set %		Cotton %		Tierra %		Set %		Cotton %	
Skin lesion	%Tt.	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF
Blister	19.6	7.7	12.0	20.0	7.7	25.0	12.5	5.3	0.0	5.3	21.1	6.7	0.0
Erosion	7.5	0.0	4.0	8.0	0.0	12.5	18.8	0.0	0.0	0.0	0.0	20.0	13.3
Reddened skin	3.7	0.0	0.0	0.0	0.0	18.8	18.8	0.0	0.0	0.0	0.0	6.7	6.7
Urticaria	0.9	0.0	0.0	0.0	0.0	6.3	6.3	0.0	0.0	0.0	0.0	0.0	0.0
Crevice	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0
Heloma	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	6.7
(14.5-29.6 km)		Female						Male					

		Tierra %		Set %		Cotton %		Tierra %		Set %		Cotton %	
		RF	LF	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF
Muscle lesion	%Tt.												
Pain due inadequate warm	11.2	15.4	4.0	4.0	7.7	0.0	12.5	10.5	0.0	5.3	10.5	0.0	0.0
Inflammation	0.9	0.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Muscle discomfort	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0
Sprain	0.9	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(14.5-29.6 km)		Female						Male					
		Tierra %		Set %		Cotton %		Tierra %		Set %		Cotton %	
Nail lesion	%Tt.	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF	RF	LF
Onychocryptosis	0.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subungual hematoma	1.9	0.0	0.0	0.0	0.0	6.3	6.3	0.0	0.0	0.0	0.0	6.7	6.7

Km=Kilometres, %=Percentage, Tt=Total, RF=Right foot, LF=Left foot.

In the second part of the hike, a greater variety of dermal lesions was detected. The most prevalent were blisters, erosions and reddened skin. Again, no urticaria, reddened skin, crevices, or helomas were detected with either technical sock. Differences were found between the percentage of dermal lesions among hikers wearing technical socks (21.1%) or non-technical socks (54.8%) (p-value=0.001). By gender, the percentage of women and men with dermal lesions was higher among wears of non-technical socks (women 68.8% and men 40%) than among wearers of technical socks (women 26.3% and men 15.8%) but the differences only were significant in women (p-value=0.006). Considering the sock used in each foot, in the case of women, presented more reddened skin in both RF and LF if they used cotton sock compared to the Tierra and Set (RF and LF p-values=0.023). In the case of men, they presented more blisters in the LF if they used Set sock than cotton or Tierra (p-value=0.021) and more erosion in the RF if they used cotton sock in comparison with the Tierra or Set (p-value=0.018) (Table 4). A greater variety of total muscle lesions was also detected in the second part of the hike: pain due to inadequate warm, inflammation, muscle discomfort and sprain. No differences were found between any of the muscular injuries analysed and the technical and non-technical socks neither by sex (Table 4).

Nail lesions like onychocryptosis (0.9%) and subungual hematomas (1.9%) were infrequently and developed only in the second part of the hike. No difference between any of the nail lesions analyzed and technical and non-technical socks were found. By sex, no differences were found (Table 4).

The temperature comparisons between technical and non-technical socks, regardless of distance, foot, measurement area and sex, showed significant differences. The Friedman test was performed (p value <0.005) for the comparisons between paired samples and the Kruskal-Wallis test was performed (p value <0.009) for independent samples. (Supplementary data, tables A, B).

The differences in temperature are greater at the beginning of the hike than at the end. An increase in temperature from 0 km to 14.5 km was observed, and temperature stabilization of 14.5 km to 29.6 km in all types of socks. However, the increase in temperature, from the beginning to the end of the hike, varies between the types of socks in all the areas measured at the foot of the walkers; being superior when using non-technical socks (about 8.5°C) than in the case of using technical socks (about 1.2°C) (Supplementary data, tables A, B).

Table 5. Women's foot temperature by sock type.

FEMALE									
Distance (km)	Sock			P-value sock			P-value distance		
	T	S	C	T-S	T-C	S-C	T	S	C
Dorsal temp (°C) RF									
0	34.7	35.0	19.9	1.000	0.000*	0.000*	(1)=0.002*	(1)=0.000*	(1)=0.001*
14.5	36.2	36.3	31.8	1.000	0.013*	0.000*	(2)=0.000*	(2)=0.000*	(2)=0.000*
29.6	36.3	36.3	30.6	1.000	0.000*	0.000*	(3)=1.000	(3)=1.000	(3)=0.867
Dorsal temp (°C) LF									
0	35.0	35.0	19.9	1.000	0.000*	0.000*	(1)=0.000*	(1)=0.005*	(1)=0.003*

14.5	36.4	36.2	32.2	0.931	0.002*	0.036*	(2)=0.000*	(2)=0.001*	(2)=0.000*
29.6	36.3	36.3	30.8	1.000	0.000*	0.000*	(3)=1.000	(3)=1.000	(3)=0.472
Plantar temp (°C) RF									
0	34.8	34.8	20.5	1.000	0.000*	0.000*	(1)=0.007*	(1)=0.000*	(1)=0.000*
14.5	36.0	36.2	29.7	1.000	0.000*	0.000*	(2)=0.001*	(2)=0.000*	(2)=0.000*
29.6	36.2	36.2	30.6	1.000	0.000*	0.000*	(3)=1.000	(3)=1.000	(3)=1.000
Plantar temp (°C) LF									
0	34.8	34.9	21.0	1.000	0.000*	0.000*	(1)=0.002*	(1)=0.009*	(1)=0.000*
14.5	36.2	36.0	30.2	0.287	0.000*	0.000*	(2)=0.000*	(2)=0.000*	(2)=0.000*
29.6	36.1	36.0	30.2	1.000	0.000*	0.000*	(3)=0.420	(3)=0.785	(3)=1.000

Km=Kilometres, T=Tierra, S=Set, C=Cotton, Temp=Temperature, (°C)=Degrees centigrade, RF=Right foot, LF=Left foot, (*)=Significant difference, (1)= Distance between 0-14.5 Km, (2)= Distance between 0-29.6 Km, (3)= Distance between 14.5-29.6 Km.

By gender, no significant differences were detected between technical socks models nor in women (p-values> 0.287) nor in men (p-values> 0.249). However, significant differences were detected between each model of technical socks and the non-technical sock for all distances and areas of the feet measured (Tierra-Cotton p-values<0.013 in women and p-value<0.036 in men) and (Set-Cotton p-values<0.036 in women and p-value <0.014 in men). Regarding the distance in both men and women, differences were observed from the beginning to the end and from the beginning to the middle route with all the models. In addition, in the case of men the tendency is observed in the plant of both feet to increase the temperature from the middle to the end of the hike (LF p-value=0.056, RF p-value=0.091) although it cannot be considered statistical significance (tables 5 and 6).

Table 6. Men's foot temperature by sock type.

MALE									
Distance (km)	Sock			P-value sock			P-value distance		
	T	S	C	T-S	T-C	S-C	T	S	C
Dorsal temp (°C) RF									
0	34.9	35.1	22.0	1.000	0.000*	0.000*	(1)=0.005*	(1)=0.017*	(1)=0.003*
14.5	35.9	36.1	32.9	1.000	0.030*	0.014*	(2)=0.000*	(2)=0.000*	(2)=0.000*
29.6	36.3	36.4	30.0	1.000	0.000*	0.000*	(3)=0.470	(3)=0.223	(3)=0.896
Dorsal temp (°C) LF									
0	35.2	35.3	21.4	1.000	0.000*	0.000*	(1)=0.008*	(1)=0.240	(1)=0.003*
14.5	36.3	36.0	32.5	0.931	0.036*	0.002*	(2)=0.000*	(2)=0.003*	(2)=0.000*
29.6	36.5	36.4	30.8	1.000	0.000*	0.000*	(3)=0.128	(3)=0.401	(3)=0.558
Plantar temp (°C) RF									
0	34.9	35.1	22.0	1.000	0.000*	0.000*	(1)=0.011*	(1)=0.017*	(1)=0.004*
14.5	35.8	36.4	30.3	0.249	0.007*	0.000*	(2)=0.000*	(2)=0.000*	(2)=0.001*
29.6	36.2	36.4	29.0	1.000	0.000*	0.000*	(3)=0.091	(3)=0.223	(3)=1.000
Plantar temp (°C) LF									
0	35.0	34.9	21.8	1.000	0.000*	0.000*	(1)=0.006*	(1)=0.001*	(1)=0.042*

14.5	36. 1	35.7	31.2	0.287	0.000*	0.000*	(2)=0.000 *	(2)=0.000 *	(2)=0.000*
29.6	36. 4	36.2	29.3	1.000	0.000*	0.000*	(3)=0.056	(3)=0.401	(3)=0.558

Km=Kilometres, T=Tierra, S=Set, C=Cotton, Dif.=Difference Temp=Temperature, (°C)=Degrees centigrade, RF=Right foot, LF=Left foot, (*)=Significant difference, (1)= Distance between 0-14.5 Km, (2)= Distance between 0-29.6 Km, (3)= Distance between 14.5-29.6 Km.

The study of the perimeter of hikers' feet analysed in total and by gender, in relation to distance and sock type, did not reveal significant results (data not shown).

Table 7. Probability of suffering skin and muscle lesions in relation to anthropometric variables and sock type throughout the hike.

PROBABILITY SKIN LESIONS			PROBABILITY MUSCLE LESIONS	
Distance:		Distance: 14.5-29.6 Km	Distance: 0-14.5 Km	
96% If female		90% If male	100% If male	
100% If non-technical sock		100% If non-technical sock	67% If non-technical sock	
Direct relation	Inverse relation	Inverse relation	Direct relation	Inverse relation
BMI	Age	Age	BMI	Age

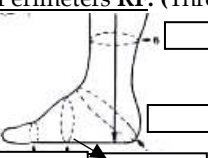
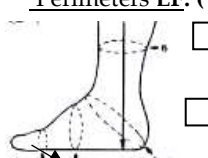
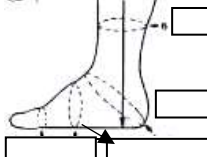
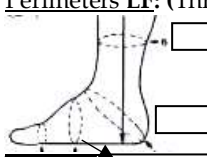
km=Kilometre, %= Percentages, BMI=Body mass index.

It was possible to study the relation between variables and predict the probability of lesions developing during the hike using logistic regression analysis (Table 7). Women have a higher probability than men of suffering skin lesions in hikes of up to 14.5 km. However, men have a higher probability than women of suffering skin lesions on hikes of 14.5 to 29.6 km and muscle lesions on hikes of up to 14.5 km.

The non-technical socks showed the highest probability of wearers suffering dermal and muscle lesions, both from 0-14.5 km and from 14.5 km to the end of the hike. The probability of dermal and muscle lesions developing in relation to the quantitative variables showed direct and inverse relations. From 0-14.5 km, the BMI and age of hikers are directly and inversely related, respectively, both in dermal and in muscle lesions. In the second part of the hike, age continued to show an inverse relation with skin lesions, but no relation with BMI was identified (Table 7).

Supplementary data

Protocol of Measures. Top shows the protocol of measure at the starting point (0 km). Middle part includes the protocol of the first part of the hike (0-14.5 km) and lower part of the table reflex the measurement protocol of the second part of the hike (14.5-29.6 km)

<u>PROTOCOL OF MEASURES</u>																									
STARTING POINT (0 Km)																									
Dorsal Number:.....Gender:.....Foot size:..... Weight.....Size.....																									
Body mass index (BMI):.....																									
Nº Bag with Socks:..... Previous Alterations on skin, muscles or nails.....																									
Temperature RF					Temperature LF																				
Plantar				Plantar																					
Dorsal				Dorsal																					
Perimeters RF: (Three different measures)					Perimeters LF: (Three different measures)																				
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FIRST PART OF THE HIKE (0-14.5 Km)					Perimeters RF: (Three different measures)																				
Temperature RF: (Three different measures) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Plantar</td><td></td><td></td><td></td></tr> <tr><td>Dorsal</td><td></td><td></td><td></td></tr> </table> Temperature LF: (Three different measures) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Plantar</td><td></td><td></td><td></td></tr> <tr><td>Dorsal</td><td></td><td></td><td></td></tr> </table>					Plantar				Dorsal				Plantar				Dorsal				 <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; padding: 2px;">tibia</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; padding: 2px;">hell</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; padding: 2px;">toes</div> <div style="border: 1px solid black; padding: 2px;">instep</div> </div>				
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MUSCLE LESIONS (SPECIFY RF AND LF) Pain due inadequate warmInflamation..... Muscle discomfort..... Sprain..... Others					 <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; padding: 2px;">tibia</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; padding: 2px;">hell</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px;"></div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; padding: 2px;">toes</div> <div style="border: 1px solid black; padding: 2px;">instep</div> </div>																				
NAIL LESIONS (SPECIFY RF AND LF) Onichocryptosissubungual hematoma..... Others.....																									
EXTRA DETAILS																									

SECOND PART OF THE HIKE (14.5-29.6 Km)**Temperature RF:** (Three different measures)

Plantar			
Dorsal			

Temperature LF: (Three different measures)

Plantar			
Dorsal			

LESIONS (14.5-29.6 Km)**SKIN LESIONS (SPECIFY RF AND LF)**

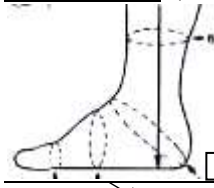
Hyperkeratosis Heloma.....Blister
.....Erosion.....Reddened skin.....
Urticaria
Grevise.....Others.....
.....

MUSCLE LESIONS (SPECIFY RF AND LF)

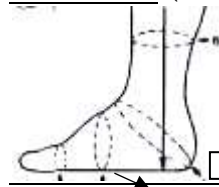
Pain due inadequate warmInflammation.....
Muscle discomfort..... Sprain..... Others.....

NAIL LESIONS (SPECIFY RF AND LF)

Onychocryptosissubungual hematoma
Others.....
...

Perimeters RF: (Three different measures)

			tibia
			hell
toes	instep		

Perimeters LF: (Three different measures)

			tibia
			hell
toes	instep		

EXTRA DETAILS

Table A. Foot temperature by sock type (technical/non-technical).

Distance	Socks		P-value socks	P-value distance	
(km)	T	NT	T-NT	T	NT
Dorsal temp (°C) RF					
0	35.0	20.7	0.000*	(1)=0.000*	(1)=0.000*
14.5	36.2	32.3	0.000*	(2)=0.000*	(2)=0.000*
29.6	36.3	30.4	0.000*	(3)=0.101	(3)=0.413
Dorsal temp (°C) LF					
0	35.2	20.6	0.000*	(1)=0.000*	(1)=0.000*
14.5	36.2	32.4	0.000*	(2)=0.000*	(2)=0.000*
29.6	36.4	30.8	0.000*	(3)=0.101	(3)=0.053
Plantar temp (°C) RF					
0	34.9	21.2	0.000*	(1)=0.000*	(1)=0.000*
14.5	36.0	30.0	0.000*	(2)=0.000*	(2)=0.000*
29.6	36.2	29.8	0.000*	(3)=0.091	(3)=0.847
Plantar temp (°C) LF					
0	34.9	21.3	0.000*	(1)=0.000*	(1)=0.000*
14.5	36.0	30.6	0.000*	(2)=0.000*	(2)=0.000*
29.6	36.2	29.8	0.000*	(3)=0.340	(3)=0.736

T=Technical, NT=Non-Technical, Km=Kilometres, Temp=Temperature, (°C)=Degrees centigrade (*)=Significant difference, RF=Right foot, LF=Left foot, (1)= Distance between 0-14.5 Km, (2)=Distance between 0-29.6 Km, (3)= between 14.5-29.6 Km.

Table B. Foot temperature by sock composition.

Distance (km)	Sock			P-value			P-value distance		
	T	S	C	T-S	T-C	S-C	T	S	C
Dorsal temp (°C) RF									
0	34.9	35.1	21.2	1.000	0.000*	0.000*	(1)=0.000*	(1)=0.000*	(1)=0.000*
14.5	36.1	36.2	32.3	1.000	0.000*	0.000*	(2)=0.000*	(2)=0.000*	(2)=0.000*
29.6	36.3	36.4	30.4	1.000	0.000*	0.000*	(3)=0.526	(3)=0.305	(3)=0.413
Dorsal temp (°C) LF									
0	35.1	35.2	20.6	1.000	0.000*	0.000*	(1)=0.000*	(1)=0.002*	(1)=0.000*
14.5	36.3	36.1	32.4	0.417	0.000*	0.001*	(2)=0.000*	(2)=0.00*	(2)=0.000*
29.6	36.4	36.4	30.8	1.000	0.000*	0.000*	(3)=0.341	(3)=0.467	(3)=0.158
Plantar temp (°C) RF									
0	34.9	35.0	21.2	1.000	0.000*	0.000*	(1)=0.000*	(1)=0.000*	(1)=0.000*
14.5	35.7	36.1	30.0	0.228	0.000*	0.000*	(2)=0.000*	(2)=0.000*	(2)=0.000*
29.6	36.2	36.3	29.9	1.000	0.000*	0.000*	(3)=0.826	(3)=0.826	(3)=1.000
Plantar temp (°C) LF									
0	34.9	34.9	21.3	1.000	0.000*	0.000*	(1)=0.000*	(1)=0.000*	(1)=0.000*
14.5	36.2	35.8	30.6	0.105	0.000*	0.000*	(2)=0.000*	(2)=0.000*	(2)=0.000*
29.6	36.2	36.1	29.8	1.000	0.000*	0.000*	(3)=1.000	(3)=0.184	(3)=0.736

Km=Kilometres, T=Tierra, S=Set, C=Cotton, temp=Temperature, (°C)=Degrees centigrade, RF=Right foot, LF=Left foot, (*)=Significant difference, (1)= Distance between 0-14.5 Km, (2)= Distance between 0-29.6 Km, (3)= Distance between 14.5-29.6 Km.