

CONTENTS

I. Introduction	9
1. Osteoarthritis	9
1.1. Osteoarthritis – terminology, definition	10
1.2. Osteoarthritic changes formation	12
1.3. Osteoarthritis – etiology	14
1.4. Osteoarthritis in anthropological science – the research directions	18
Osteoarthritis in health, socioeconomic status investigation and activity patterns reconstruction	19
Epidemiological aspects of osteoarthritis in skeletal populations	21
Methodological aspects of osteoarthritic changes in anthropological studies	21
1.5. Osteoarthritis – a problematic trait for skeletal biology studies	22
Osteoarthritis as health, and social status indicator	22
Osteoarthritis as activity patterns indicator	24
Osteoarthritis and sex, age, body size, and robusticity	25
Osteoarthritis evaluation in skeletal remains – methodological problems	27
2. Skeletal markers of physical activity patterns in past human populations	29
2.1. Enthesal changes	31
2.1.1. Enthesal changes – the research directions	32
2.1.2. Enthesal changes – a problematic trait in skeletal biology studies	36
Enthesal changes and age	37
Enthesal changes and sex	39
Enthesal changes and body size	40
3. The aims of the study	42
II. Material and methods	44
1. Material	44
2. Methods	47
2.1. Osteoarthritis	47
2.2. Enthesal changes	48
2.3. Body size reconstruction	50
Reconstruction of body mass in past human populations	51
Body mass reconstruction in the present study	52
2.4. Statistical methods	53

III. Results	56
1. Metrical and non-metrical skeletal traits – general characteristics	56
1.1. Osteoarthritic changes	56
1.2. Enthesal changes	67
1.3. Bone measurements, bone massiveness index, reconstructed body build features	74
2. The asymmetry of skeletal traits	77
2.1. Osteoarthritic changes asymmetry	77
2.2. Enthesal changes asymmetry	101
2.3. Asymmetry of bony metrical traits	103
3. Differences between males and females in skeletal features	107
3.1. Differences between osteoarthritic changes in males and females	107
3.2. Differences between enthesal changes in males and females	119
3.3. Differences between bony metrical traits in males and females	120
4. Correlation of skeletal features with age	121
4.1. Correlation of osteoarthritic changes with age	121
4.2. Correlation of enthesal changes with age	142
5. The relationship between skeletal features	143
5.1. Cedyńia	144
5.1.1. Osteoarthritic changes and skeletal metrical traits	144
5.1.2. Osteoarthritic changes and enthesal changes	146
5.1.3. Enthesal changes and bone metrical traits	148
5.1.4. Osteoarthritic changes, enthesal changes, metrical traits – mutual interactions	149
5.2. Łekno	152
5.2.1. Osteoarthritic changes and skeletal metrical traits	152
5.2.2. Osteoarthritic changes and enthesal changes	154
5.2.3. Enthesal changes and bone metrical traits	156
5.2.4. Osteoarthritic changes, enthesal changes, metrical traits – mutual interactions	158
5.3. Słaboszewo	160
5.3.1. Osteoarthritic changes and skeletal metrical traits	160
5.3.2. Osteoarthritic changes and enthesal changes	162
5.3.3. Enthesal changes and bone metrical traits	165
5.3.4. Osteoarthritic changes, enthesal changes, metrical traits – mutual interactions	166
5.4. Osteoarthritic changes, enthesal changes, metrical traits – mutual interactions (Cedyńia, Łekno, Słaboszewo taken together)	168
6. Inter-population differences	171
6.1. Inter-population differences in osteoarthritic changes	171
6.2. Inter-population differences in enthesal changes	181
6.3. Inter-population differences in metrical traits	184
7. Osteoarthritic changes relationships	185

IV. Discussion	189
1. Osteoarthritis and other skeletal traits	189
Osteoarthritis and body size	189
Osteoarthritis and enthesal changes	192
2. Inter-population differences in osteoarthritic changes manifestation	196
3. Relationships between types of osteoarthritic changes	205
Summary and conclusions	207
References	213
Annex	235
Osteoarthritis in past human populations. An anthropological perspective (Summary)	255