Published in final edited form as:

Arthritis Rheumatol. 2015 February ; 67(2): 587. doi:10.1002/art.38946.

Reply to Inquiry Regarding Ethnicity of Individuals Surveyed in 2009-2010 National Health and Nutrition Examination Survey

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To the Editor

We thank Dr. Rothschild for his interest in our study and appreciate the opportunity to address his comments.

The 2009–2010 US National Health and Nutrition Examination Survey (NHANES) was conducted in a nationally representative sample of the US population. All survey sites were in the USA. The detailed demographic characteristics of individuals that consented to spinal mobility measures have been previously published (1). The demographic background of individuals that were examined for determination of reference values for each spinal mobility measure is presented in Table 1. However, it is important to point out that we used NHANES Mobile Examination Center (MEC) sampling weights for estimation of all reference values to ensure that these estimates are representative of the demographic composition (including ethnicity) of the US adult population ages 20–69 (2). We have also provided reference values for three age strata within each major ethnic group in the manuscript.

As presented in the discussion section of the manuscript, there is considerable variation in techniques utilized for determination of spinal mobility measures. For example, thoracic expansion measurements were performed at the level of the fourth intercostal space in two previous studies (3,4) whereas it was determined at the level of the xiphoid notch in the current study. The presented reference values are only applicable if the same measurement techniques as detailed in our study are used.

References

1. Weisman MH, Witter JP, Reveille JD. The prevalence of inflammatory back pain: population-based estimates from the US National Health and Nutrition Examination Survey, 2009–10. *Ann Rheum Dis.* 2013; 72:369–73. [PubMed: 22791746]
2. National Health and Nutrition Examination Survey 2009–2010. http://wwwn.cdc.gov/nchs/nhanes/search/nhanes09_10.aspx
3. Moll JM, Wright V. New York clinical criteria for ankylosing spondylitis. A statistical evaluation. *Ann Rheum Dis.* 1973; 32(4):354–63. [PubMed: 4269429]
4. Moll JM, Wright V. An objective clinical study of chest expansion. *Ann Rheum Dis.* 1972; 31(1):1–8. [PubMed: 5008463]

Table 1
Ethnicity of individuals examined for the determination of reference values of three spinal mobility measures

	OWD (n=4910)	TE (n=4553)	ALF (n=4639)
Non-Hispanic white	2161	2027	2059
Non-Hispanic black	921	808	829
Hispanic	1541	1457	1482
Other	287	261	269

Abbreviations: OWD: Occiput-to-wall distance; TE: Thoracic expansion; ALF: Anterior lumbar flexion