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Corrigendum to “The resistance of cortical bone tissue to failure under cyclic loading is reduced with alendronate” [Bone 64 (2014) 57–64] (10.1016/j.bone.2014.03.045)

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Some of the labeling of bone specimens was incorrect. Specimens in the group labeled “medial,” which were the specimens included in the primary analysis, included specimens from both the medial and lateral cortices. Specimens in the group labeled “lateral” in the supplement (Tables S1 and S2) were all from the lateral cortex and were excluded from the primary analysis because they did not exhibit fatigue failure. While the description of specimen anatomical location was inaccurate, mislabeling does not affect any conclusions. The corrected description of the specimens is “included” and “excluded” from the principal analysis as reflected in the following revised text and supplemental tables.

The full paragraph below replaces and corrects the last paragraph of the “Biomechanical fatigue testing” section (page 59, column 1, paragraph 5):

Beams were excluded from the primary analysis if they did not exhibit fatigue. These beams failed without reaching the secondary phase of fatigue by the cycle representing 50% of the total number of cycles imposed. For example, if a test had run to 250,000 cycles but the secondary phase had not been reached by 125,000 cycles of loading then the beam would be excluded. The initial elastic moduli of these excluded beams were 30% lower than beams included in the principal analyses (Tables S1 and S2). These mechanical differences were partially ascribed to differences in porosity, where beams excluded because they did not exhibit fatigue had an average osteonal canal area (Ca.Ar) measured by histomorphometry that exceeded 3% of the total beam cross-sectional area. Data from the principal analyses are

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presented in the main text from no fewer than 2 dogs per group represented at each stress level. Data excluded from the principal analyses are reported in the supplemental results.

The full and correct last three sentences of the “limitations” paragraph of the “Discussion” section (page 63, column 1, paragraph 1) appear below:

Because the rib bone is also relatively small, the initial intent was to mechanically fatigue all beams cut from medial and lateral cortices. However, once group assignments were unblinded we found that some beams from the lateral cortex did not undergo fatigue. These specimens had very large osteonal canals (>3% of total beam area). This large porosity in those beams excluded from the primary analyses likely contributed to their poor mechanical properties, including a 30% lower initial modulus than in those beams included in the primary analysis that did exhibit fatigue (Table S1).

For the reader’s convenience, the entire supplemental data file, consisting of three tables, is reproduced here. The labeling of specimens is corrected in Tables S1 and S2, while no correction to Table S3 is necessary.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.