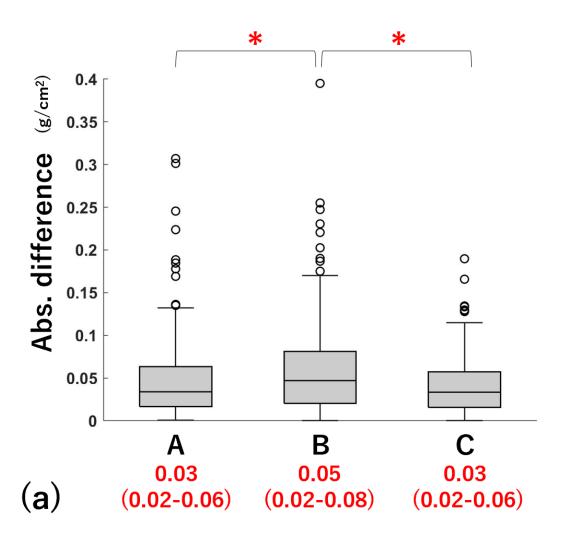


#### **Supplementary Material**

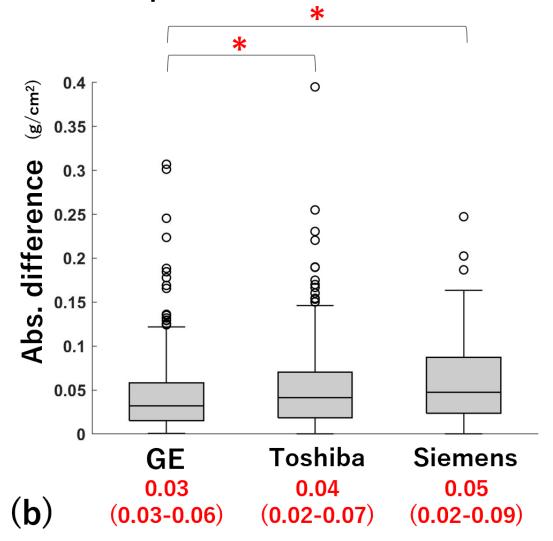
10.1302/2046-3758.129.BJR-2023-0115.R1

### **Comparison across institutions**



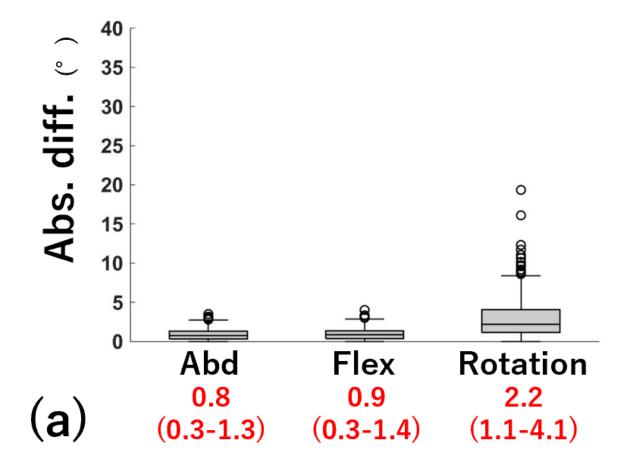
**Fig aa.** Absolute difference between CT-aBMD and DXA-BMD compared across institutions. Red numbers indicate the median absolute difference (interquartile range) expressed in  $g/cm^2$ . \*p < 0.01. Abs., absolute; BMD, bone mineral density; DXA, dual-energy X-ray absorptiometry.

### Comparison across manufacturers



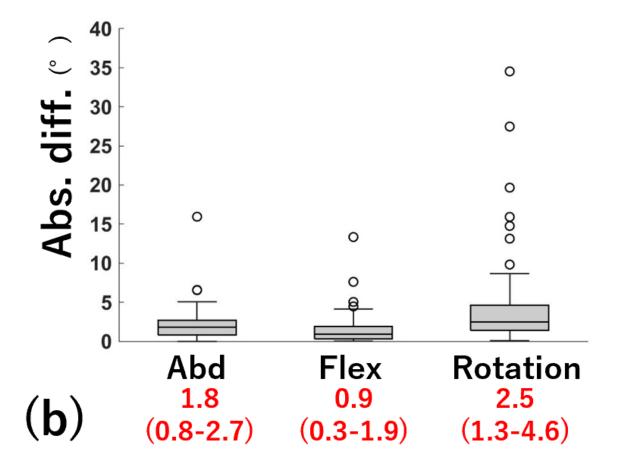
**Fig ab.** Absolute difference between CT-aBMD and DXA-BMD compared across CT manufacturers. Red numbers indicate the median absolute difference (interquartile range) expressed in g/cm<sup>2</sup>. \*p < 0.01. Abs., absolute; BMD, bone mineral density; DXA, dual-energy X-ray absorptiometry; GE, General Electric Medical; Toshiba, Toshiba Medical Systems.

# Internal validation

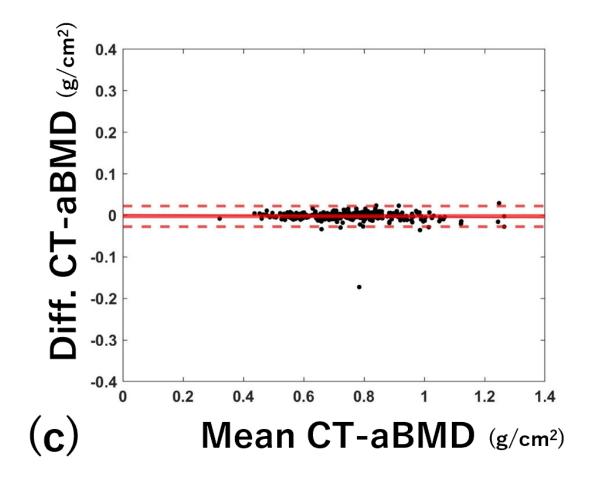


**Fig ba.** Absolute difference in hip angles calculated from the landmarks selected automatically and manually for internal validation. Red numbers indicate the median degree (interquartile range). Abs., absolute; diff., difference; abd, abduction; flex, flexion.

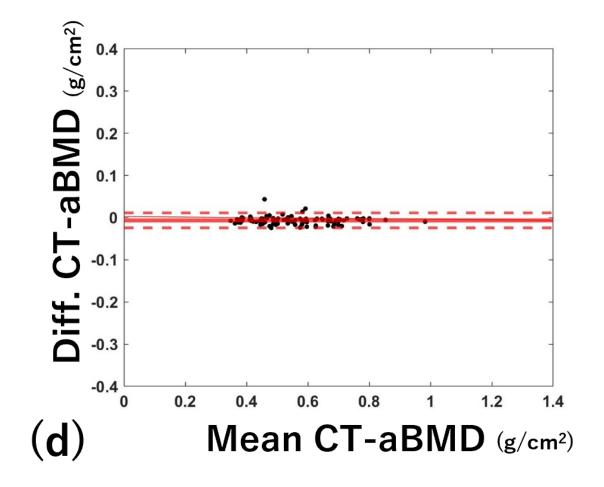
# **External validation**



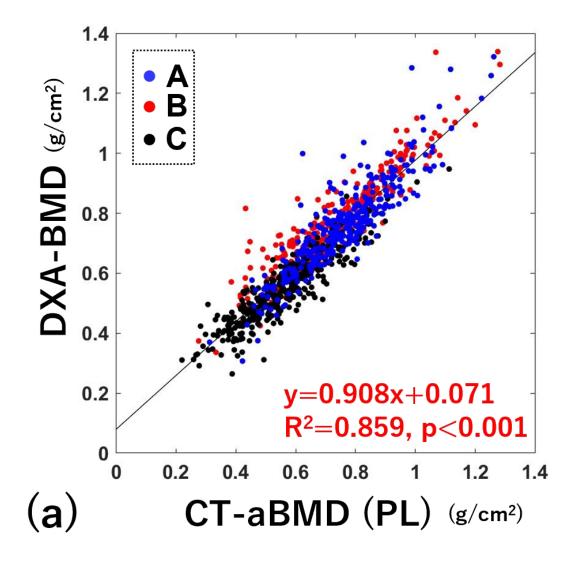
**Fig bb.** Absolute difference in hip angles calculated from the landmarks selected automatically and manually for external validation. Red numbers indicate the median degree (interquartile range). Abs., absolute; diff., difference; abd, abduction; flex, flexion.



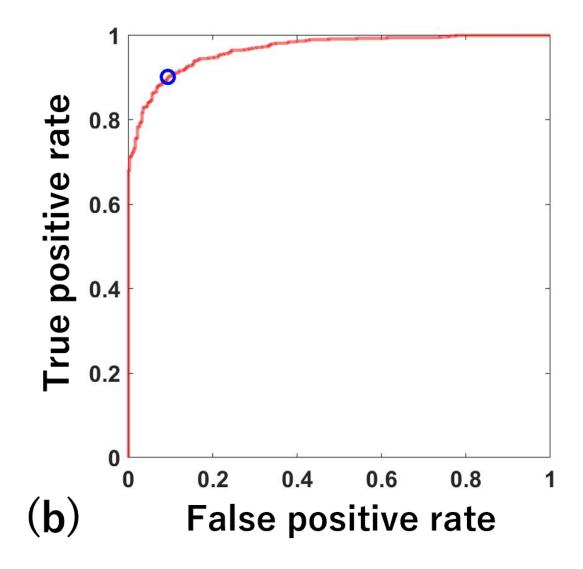
**Fig bc.** Bland–Altman plots for comparing CT-aBMD using the manually and automatically selected landmarks for internal validation. The thick red line in the Bland–Altman plots indicates the mean value of the plots, and the thin red-dotted lines indicate the 95% limits of agreement. BMD, bone mineral density; diff., difference.



**Fig bd.** Bland–Altman plots for comparing CT-aBMD using the manually and automatically selected landmarks for external validation. The thick red line in the Bland–Altman plots indicates the mean value of the plots, and the thin red-dotted lines indicate the 95% limits of agreement. BMD, bone mineral density; diff., difference.



**Fig ca.** Correlation plots between CT-aBMD (phantom-less: PL) and DXA-BMD. The blue, red, and black dots indicate cases from institutions A, B, and C, respectively. The black line indicates the regression line, and the red text indicates the regression equation, coefficient of determination, and p-value. BMD, bone mineral density; DXA, dual-energy X-ray absorptiometry.



**Fig cb.** Receiver operating characteristic curve analysis for diagnosing osteoporosis using CT-aBMD (phantom-less: PL). The blue circle indicates the optimal cutoff point. BMD, bone mineral density.