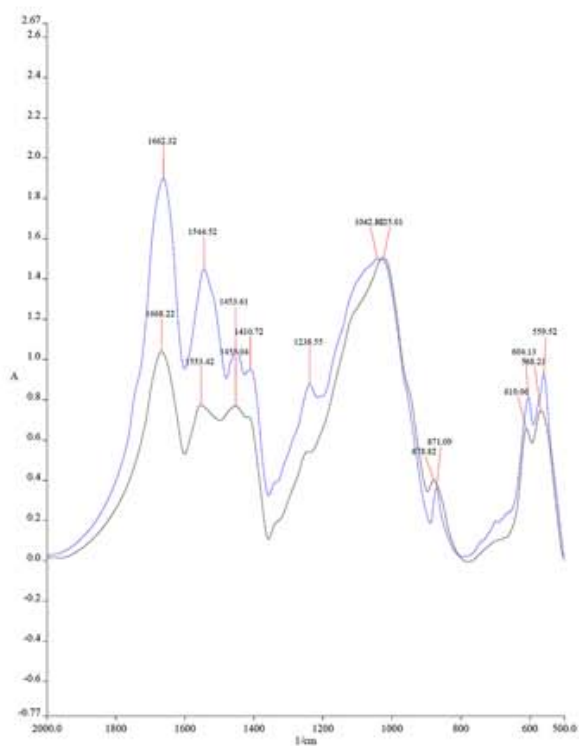
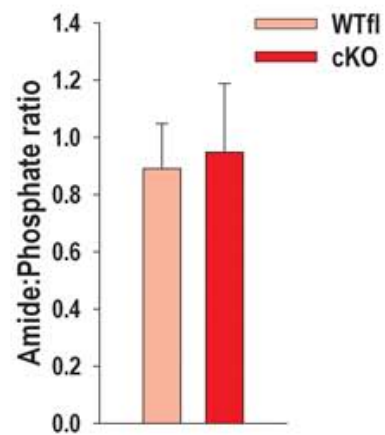
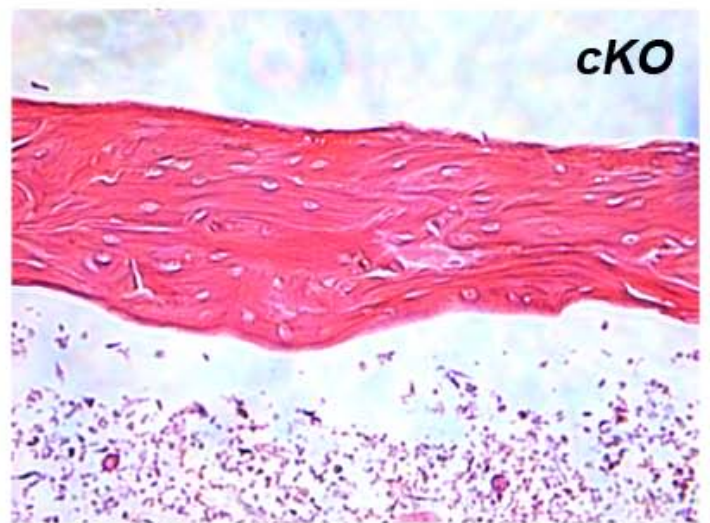
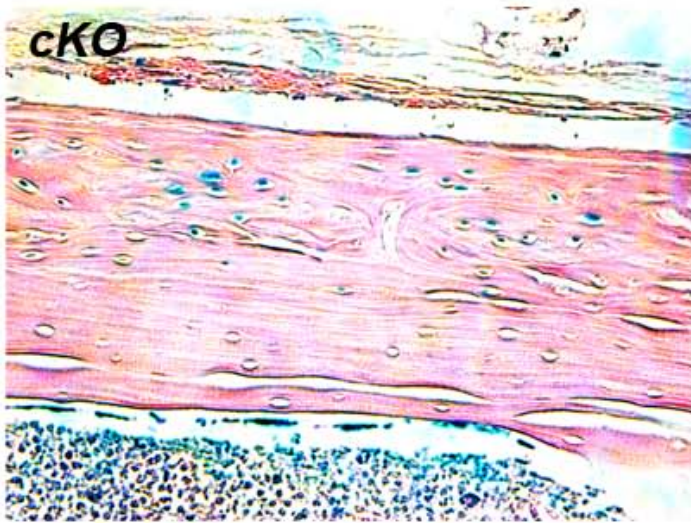


A**B**

Age: 6 months



Age: 12 months



Supplemental Table 1:

Real-Time Quantitative PCR Primers Used in This Study

Gene	Forward primer	Reverse primer
<i>Alpl</i>	ACACCAATGTAGCCAAGAATGTCA	GATTCGGGCAGCGGTTACT
<i>Bsp</i>	CCGGCCACGCTACTTTCTT	GGACTGGAAACCGTTTC
<i>Col1A1</i>	CGAAGGCAACAGTCGATTCA	CCCCAAGTCCGGTGTGA
<i>Gja1</i>	CGGTTGTGAAAATGTCTGCTATG	GGCACAGACACGAATATGATCTG
<i>Cphn (Ppia)</i>	AGCATAACAGGTCTGGCATC	TTCACCTTCCCAAAGACCAC
<i>Opg</i>	TCCCGAGGACCACAATGAAC	TGGGTTGTCCATTCAATGATGT
<i>Bglap2</i>	CAGCGGCCCTGAGTCTGA	GCCGGAGTCTGTTCACTACCTTA
<i>Opn (Spp1)</i>	TGAGCTGCCAGAATCAGTCACT	GTATTGCTTTTGCCTGTTTGG
<i>Osx (Sp7)</i>	CCCTTCTCAAGCACCAATGG	AAGGGTGGGTAGTCATTTGCATA
<i>RANKL(Tnfsf11)</i>	CACCATCAGCTGAAGATAGT	CCAAGATCTCTAACATGACG
<i>Runx2 (Cfba1)</i>	GGACCGTGGTTACCGTCATG	GCTCGGCAGAGTAGTTCTCATCA
<i>SOST</i>	AGCCTTCAGGAATGATGCCAC	CTTTGGCGTCATAGGGATGGT

Legends to Supplemental Figures

Fig. S1: Sustained DM1;Cre mediated *Gja1* deletion in bone cells (A) β -gal stained tibia sections showing specific β -gal staining present in the cKO at 6 months of age. (B) β -gal stained tibia sections showing no specific β -gal staining present in the cKO at 12 months of age.

Fig. S2: Unaltered trabecular parameters in *Gja1* deletion Static histomorphometric analysis at 1 month of age show no difference between cKO and WTfl nor cODDD and WTod for trabecular spacing, trabecular osteoblast and osteoclast number per bone perimeter and trabecular osteoblast and osteoclast perimeter per bone perimeter.

Fig. S3 : Unaltered trabecular bone mass but altered marrow area and calculated bone strength in *Gja1* models (A) Parameters of trabecular bone mass; bone volume/tissue volume and trabecular thickness are conserved in both mutants at one month of age. (B) Marrow area is significantly higher in cKO than in WTfl; and (D) in cODDD femurs relative to WTod. (C) Geometrical cross-sectional moment of inertia was significantly higher in cKO, whereas (F) ultimate force, measured using a three-point bending test, is reduced relative to WTfl. (E) Cross-sectional moment of inertia and ultimate force (G) are not significantly different in cODDD, compared to WTod. (** $p < 0.01$, * $p < 0.05$, vs. WT; t-test for unpaired samples, $n = 5$).

Fig. S4 : Trend to lower mineralization in cKO (A) Representative traces from Fourier transform infrared spectroscopy (FTIR) analysis of WTflx (blue tracing) and cKO (black tracing), indicating [...]. (B) Amide (protein) to phosphate (mineral) ratio is trending higher in the cKO, although these differences are not statistically significant.