



UNIVERSITY OF LEEDS

This is a repository copy of *Amalgamated Reference Data for Size-Adjusted Bone Densitometry Measurements in 3598 Children and Young Adults-the ALPHABET Study*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/134697/>

Version: Accepted Version

Article:

Crabtree, NJ, Shaw, NJ, Bishop, NJ et al. (10 more authors) (2017) Amalgamated Reference Data for Size-Adjusted Bone Densitometry Measurements in 3598 Children and Young Adults-the ALPHABET Study. *Journal of Bone and Mineral Research*, 32 (1). pp. 172-180. ISSN 0884-0431

<https://doi.org/10.1002/jbmr.2935>

© 2016 American Society for Bone and Mineral Research. This is the peer reviewed version of the following article: Crabtree, NJ, Shaw, NJ, Bishop, NJ et al. (10 more authors) (2017) Amalgamated Reference Data for Size-Adjusted Bone Densitometry Measurements in 3598 Children and Young Adults-the ALPHABET Study. *Journal of Bone and Mineral Research*, 32 (1). pp. 172-180, which has been published in final form at <https://doi.org/10.1002/jbmr.2935>. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Use of Self-Archived Versions.

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Supplemental Information

Supplemental Table 1

Population/ region	n = (take from current numbers)	Recruitment strategy	Inclusion criteria	Exclusion criteria
Birmingham, Middlesborough, Glasgow	1537	Advertisement in schools and colleges	Children aged 5-18 years. Ability to give verbal assent and for those over 16 written consent	1) inability to give informed consent, (2) height or weight outside the 0.4th and 99.6th centiles on current growth reference curves (3) history of recurrent low trauma fractures or any fracture in the past 12 months, (4) prolonged periods of immobilisation in the past 12 months, (5) systemic disease, (6) any condition, or use of any drugs known to affect bone health (children were included if they used inhaled corticosteroids because of evidence suggesting that these drugs do not adversely affect BMD) (7) participation in research involving ionising radiation in the past 12 months,
London	372	Advertisement in schools and colleges, GP practices and hospital advert	Children aged 5-18 years. Ability to give verbal assent and for those over 16 written consent	1) inability to give informed consent, 2) prolonged periods of immobilisation in the past 12 months, 3) systemic disease, 4) any condition, or use of any drugs known to affect bone health (children were included if they used inhaled corticosteroids because of evidence suggesting that these drugs do not adversely affect BMD)
Sheffield	830	1) Advertisement in schools and colleges, GP practices and hospital advert 2) Healthy children with moderate or high trauma fracture recruited as part of a study from Emergency Department and age-matched controls without fractures	White Caucasian children aged 5-18 years. Ability to give verbal assent and for those over 16 written consent	1) inability to give informed consent, 2) prolonged periods of immobilisation in the past 12 months, 3) systemic disease, 4) any condition, or use of any drugs known to affect bone health (children were included if they used inhaled corticosteroids because of evidence suggesting that these drugs do not adversely affect BMD)
Leeds	171	Healthy controls recruited as part of a cystic fibrosis study using a 'buddy' approach	White Caucasian children aged 5-18 years. Ability to give verbal assent and for those over 16 written consent	1) inability to give informed consent, 2) prolonged periods of immobilisation in the past 12 months, 3) systemic disease, 4) any condition, or use of any drugs known to affect bone health (children were included if they used inhaled corticosteroids because of evidence suggesting that these drugs do not adversely affect BMD)
Manchester	587	Advertisement in schools and colleges, GP practices, healthcare centres, University of Manchester staff and student lists.	White Caucasian children aged 5-18 years. Ability to give verbal assent and for those over 16 written consent	1) inability to give informed consent, (2) height or weight outside the 0.4th and 99.6th centiles on current growth reference curves (3) history of recurrent low trauma fractures or any fracture in the past 12 months, (4) prolonged periods of

				immobilisation in the past 12 months, (5) systemic disease, (6) any condition, or use of any drugs known to affect bone health (children were included if they used inhaled corticosteroids because of evidence suggesting that these drugs do not adversely affect BMD) (7) participation in research involving ionising radiation in the past 12 months, (8) first-degree relative with primary osteoporosis (9) in females, current or past pregnancy
--	--	--	--	---

Supplemental Table 2a

In-vivo cross-calibrations equations between GE Lunar DPX-L and a GE Prodigy

GE Lunar DPX-L → GE Lunar Prodigy	r ²	SEE	SEE (%)
$L1L4BMD_{GEProdigy} = 0.013 + [1.014 \times BMD_{GEDPX-L}]$	0.99	0.02	2.5
$L1L4BMAD_{GEProdigy} = 0.002 + [1.029 \times L1L4BMAD_{GEDPX-L}]$	0.96	0.01	3.1
$TBBMD_{GEProdigy} = 0.017 + [0.985 \times TBBMD_{GEDPX-L}]$	0.99	0.02	1.5
$TBLHBMD_{GEProdigy} = 0.034 + [0.976 \times TBLHBMD_{GEDPX-L}]$	0.99	0.02	1.4
$TBLHBMCGEProdigy = -63 + [1.078 \times TBLHBMCGEDPX-L]$	0.99	87	6.0
$TBLEAN_{GEProdigy} = 510 + [0.984 \times TBLEAN_{GEDPX-L}]$	0.99	753	2.3
$TBFAT_{GEProdigy} = -54 + [1.019 \times TBFAT_{GEDPX-L}]$	0.99	736	5.7
GE Lunar DPX-L → GE Lunar Prodigy Enhanced	r ²	SEE	SEE (%)
$TBBMD_{GEProdigyE} = -0.288 + [1.240 \times TBBMD_{GEDPX-L}]$	0.99	0.02	2.1
$TBLHBMD_{GEProdigyE} = -0.165 + [1.140 \times TBLHBMD_{GEDPX-L}]$	0.99	0.02	2.2
$TBLHBMCGEProdigyE = 115 + [0.915 \times TBLHBMCGEDPX-L]$	0.99	63.97	4.6
$TBLEAN_{GEProdigyE} = -1783 + [1.022 \times TBLEAN_{GEDPX-L}]$	0.99	1351.71	4.2
$TBFAT_{GEProdigyE} = 3009 + [0.899 \times TBFAT_{GEDPX-L}]$	0.98	1042.16	7.2

Data previously published but re-analysed using contemporary software (Crabtree Ref), DPX-L Data analysed using software 4.6 & GE Prodigy data analysed using Encore version 15.

Supplemental Table 2b

In-vivo cross-calibrations equations between GE Lunar Prodigy and a GE Lunar iDXA

GE Lunar Prodigy → GE Lunar iDXA	r ²	SEE	SEE (%)
$L1L4BMD_{GE\ iDXA} = -0.008 + [0.999 \times BMD_{GE\ Prodigy}]$	0.99	0.02	2.0
$L1L4BMAD_{GE\ iDXA} = -0.003 + [1.002 \times BMAD_{GE\ Prodigy}]$	0.98	0.01	2.2
$TBBMD_{GE\ iDXA} = -0.322 + [1.256 \times TBBMD_{GE\ Prodigy}]$	0.97	0.02	2.7
$TBLHBMD_{GE\ iDXA} = -0.175 + [1.111 \times TBLHBMD_{GE\ Prodigy}]$	0.98	0.02	3.1
$TBLHBMCGE\ iDXA = 110 + [0.898 \times TBLHBMCGE\ Prodigy]$	0.99	54.74	5.1
$TBLEAN_{GE\ iDXA} = -523 + [0.991 \times TBLEAN_{GE\ Prodigy}]$	0.99	223.89	3.6
$TBFAT_{GE\ iDXA} = 2303 + [0.945 \times TBFAT_{GE\ Prodigy}]$	0.99	732.35	5.2
GE Lunar Prodigy Enhanced → GE Lunar iDXA	r ²	SEE	SEE (%)
$TBBMD_{GE\ iDXA} = -0.003 + [0.989 \times TBBMD_{GE\ ProdigyE}]$	0.98	0.02	2.2
$TBLHBMD_{GE\ iDXA} = -0.024 + [1.018 \times TBLHBMD_{GE\ ProdigyE}]$	0.99	0.02	2.3
$TBLHBMCGE\ iDXA = -46 + [1.021 \times TBLHBMCGE\ ProdigyE]$	0.99	28.84	2.7
$TBLEAN_{GE\ iDXA} = 521 + [1.001 \times TBLEAN_{GE\ ProdigyE}]$	0.99	387.25	1.4
$TBFAT_{GE\ iDXA} = -159 + [0.992 \times TBFAT_{GE\ ProdigyE}]$	0.99	358.69	2.6

Data currently unpublished, based on in-vivo cross-calibration of 70 children aged 5-20 years. Both GE Lunar Prodigy and iDXA data analysed using Encore version 15.

Supplemental Table 2c

In-vitro Cross-calibrations equations between GE Lunar iDXA and a Hologic Discovery

Hologic Discovery → GE Lunar iDXA	r ²	SEE	SEE (%)
$L1L4BMD_{GEiDXA} = 0.050 + [1.126 \times L1L4BMD_{Hologic}]$	0.99	0.01	1.0
$L1L4BMC_{GEiDXA} = 0.025 + [1.120 \times L1L4BMC_{Hologic}]$	0.99	0.14	1.4
$L1L4Area_{GEiDXA} = -3.463 + [1.286 \times L1L4BMC_{Hologic}]$	0.98	0.11	1.1
$L1L4BMAD_{GEiDXA} = 0.026 + [1.119 \times L1L4BMAD_{Hologic}]$	0.99	0.01	1.3

Cross-calibration equations calculated using the European Spine Phantom, Hologic Discovery Apex 4.1 and GE Lunar iDXA Encore version 15.0.

Supplemental Table 3a Age scale and EDF's Used to Fit GE Lunar Prodigy Lumbar Spine BMAD LMS Curves

	BMAD – Girls			BMAD – Boys		
	White	Asian	Black	White	Asian	Black
Age Scale	Rescaled	Rescaled	Original	Rescaled	Rescaled	Original
EDF for L	1	1	1	0	0	0
EDF for M	5	5	5	5	5	5
EDF for S	1	2	1	1	1	1

Supplemental Table 3b Age scale and EDF's Used to Fit GE Lunar iDXA Lumbar Spine BMAD LMS Curves

	BMAD – Girls			BMAD – Boys		
	White	Asian	Black	White	Asian	Black
Age Scale	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled	Original
EDF for L	1	0	0	0	0	0
EDF for M	5	4	4	5	5	4
EDF for S	1	1	1	1	1	0

Supplemental Table 3c Age scale and EDF's Used to Fit Hologic Lumbar Spine BMAD LMS Curves

	BMAD – Girls	BMAD – Boys
	White	White
Age Scale	Rescaled	Rescaled
EDF for L	0	0
EDF for M	4	4
EDF for S	1	2

Supplemental Table 3d Age scale and EDF's Used to Fit GE Lunar Prodigy Lumbar Spine BMD LMS Curves

	L1L4BMD – Girls			L1L4BMD – Boys		
	White	Asian + White	Black	White	Asian + White	Black
Age Scale	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled
EDF for L	1	1	0	0	1	0
EDF for M	5	5	5	5	5	4
EDF for S	3	3	1	1	2	1

Supplemental Table 3e Age scale and EDF's Used to Fit GE Lunar iDXA Lumbar Spine BMD LMS Curves

	L1L4BMD – Girls			L1L4BMD – Boys		
	White	Asian + White	Black	White	Asian + White	Black
Age Scale	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled
EDF for L	1	1	0	0	1	0
EDF for M	5	5	5	5	5	4
EDF for S	3	3	1	1	1	1

Supplemental Table 3f Age scale and EDF's Used to Fit Hologic Lumbar Spine BMD LMS Curves

	L1L4BMD – Girls	L1L4BMD – Boys
	White	White
Age Scale	Rescaled	Rescaled
EDF for L	0	0
EDF for M	4	4
EDF for S	1	1

Supplemental Table 3g Age scale and EDF's Used to Fit GE Lunar Prodigy TBLH BMD LMS Curves

	TBLH BMD – Girls			TBLH BMD – Boys		
	White	Asian + White	Black	White	Asian + White	Black
Age Scale	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled
EDF for L	1	1	0	0	0	0
EDF for M	5	5	5	5	5	5
EDF for S	3	3	2	2	2	2

Supplemental Table 3h Age scale and EDF's Used to Fit GE Lunar Prodigy Enhanced TBLH BMD LMS Curves

	TBLH BMD – Girls			TBLH BMD – Boys		
	White	Asian + White	Black	White	Asian + White	Black
Age Scale	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled
EDF for L	1	1	0	0	0	0
EDF for M	5	5	5	5	5	5
EDF for S	1	1	1	2	2	2

Supplemental Table 3i Age scale and EDF's Used to Fit GE Lunar iDXA Lumbar Spine BMD LMS Curves

	TBLH BMD – Girls			TBLH BMD – Boys		
	White	Asian + White	Black	White	Asian + White	Black
Age Scale	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled	Rescaled
EDF for L	1	1	0	1	0	0
EDF for M	5	5	5	5	5	5
EDF for S	3	3	1	2	2	2

Supplemental Table 3j Age scale and EDF's Used to Fit Hologic Lumbar Spine BMD LMS Curves

	TBLH BMD – Girls	TBLH BMD – Boys
	White	White
Age Scale	Rescaled	Rescaled
EDF for L	0	0
EDF for M	4	5
EDF for S	1	1

Supplemental Table 4a LMS values for Lumbar Spine BMAD – GE LUNAR PRODIGY Encore versions 10.0 -15.0

Age (years)	GE Lunar Prodigy - Girls									GE Lunar Prodigy - Boys								
	White			Asian			Black			White			Asian			Black		
	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S
4	-0.01	0.265	0.10							1.00	0.256	0.10						
4.5	-0.01	0.266	0.10							1.00	0.256	0.10						
5	-0.01	0.266	0.10	0.04	0.257	0.09				1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.258	0.09
5.5	-0.01	0.266	0.10	0.04	0.260	0.09	0.10	0.270	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.259	0.09
6	-0.01	0.266	0.10	0.04	0.262	0.09	0.10	0.272	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.261	0.09
6.5	-0.01	0.266	0.10	0.04	0.265	0.09	0.10	0.274	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.262	0.09
7	-0.01	0.266	0.10	0.04	0.267	0.09	0.10	0.275	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.264	0.09
7.5	-0.01	0.266	0.10	0.04	0.270	0.09	0.10	0.277	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.266	0.09
8	-0.01	0.266	0.10	0.04	0.274	0.09	0.10	0.278	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.267	0.09
8.5	-0.01	0.266	0.10	0.04	0.277	0.09	0.10	0.279	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.268	0.09
9	-0.01	0.267	0.10	0.04	0.280	0.09	0.10	0.280	0.12	1.00	0.256	0.10	1.00	0.262	0.10	1.00	0.270	0.09
9.5	-0.01	0.267	0.10	0.04	0.282	0.09	0.10	0.283	0.12	1.00	0.256	0.10	1.00	0.261	0.10	1.00	0.271	0.09
10	-0.01	0.268	0.10	0.04	0.285	0.09	0.10	0.286	0.12	1.00	0.256	0.10	1.00	0.261	0.10	1.00	0.272	0.09
10.5	-0.01	0.270	0.10	0.04	0.287	0.09	0.10	0.290	0.12	1.00	0.256	0.10	1.00	0.261	0.10	1.00	0.273	0.09
11	-0.01	0.273	0.10	0.04	0.288	0.09	0.10	0.295	0.12	1.00	0.256	0.10	1.00	0.261	0.10	1.00	0.274	0.09
11.5	-0.01	0.277	0.10	0.04	0.290	0.09	0.10	0.301	0.12	1.00	0.257	0.10	1.00	0.261	0.10	1.00	0.275	0.09
12	-0.01	0.282	0.10	0.04	0.294	0.09	0.10	0.307	0.12	1.00	0.257	0.10	1.00	0.262	0.10	1.00	0.277	0.09
12.5	-0.01	0.287	0.10	0.04	0.300	0.09	0.10	0.315	0.12	1.00	0.257	0.10	1.00	0.263	0.10	1.00	0.278	0.09
13	-0.01	0.295	0.10	0.04	0.307	0.09	0.10	0.322	0.12	1.00	0.259	0.10	1.00	0.266	0.10	1.00	0.279	0.09
13.5	-0.01	0.304	0.10	0.04	0.314	0.09	0.10	0.330	0.12	1.00	0.263	0.10	1.00	0.269	0.10	1.00	0.280	0.09
14	-0.01	0.312	0.10	0.04	0.320	0.09	0.10	0.337	0.12	1.00	0.269	0.10	1.00	0.274	0.10	1.00	0.281	0.09
14.5	-0.01	0.317	0.10	0.04	0.324	0.08	0.10	0.343	0.12	1.00	0.276	0.10	1.00	0.281	0.10	1.00	0.283	0.09
15	-0.01	0.320	0.10	0.04	0.328	0.08	0.10	0.347	0.12	1.00	0.282	0.10	1.00	0.290	0.10	1.00	0.287	0.09
15.5	-0.01	0.322	0.10	0.04	0.330	0.08	0.10	0.350	0.12	1.00	0.288	0.10	1.00	0.298	0.10	1.00	0.291	0.09
16	-0.01	0.324	0.10	0.04	0.332	0.08	0.10	0.352	0.12	1.00	0.292	0.10	1.00	0.303	0.10	1.00	0.296	0.09
16.5	-0.01	0.325	0.10	0.04	0.332	0.08	0.10	0.355	0.12	1.00	0.295	0.10	1.00	0.306	0.10	1.00	0.301	0.09
17	-0.01	0.326	0.10	0.04	0.332	0.08	0.10	0.358	0.12	1.00	0.297	0.10	1.00	0.307	0.10	1.00	0.306	0.09
17.5	-0.01	0.327	0.10	0.04	0.332	0.08	0.10	0.361	0.12	1.00	0.299	0.10	1.00	0.308	0.10	1.00	0.312	0.09
18	-0.01	0.328	0.10	0.04	0.333	0.08	0.10	0.365	0.12	1.00	0.301	0.10	1.00	0.308	0.10	1.00	0.317	0.09
18.5	-0.01	0.328	0.10	0.04	0.333	0.08	0.10	0.369	0.12	1.00	0.302	0.10	1.00	0.308	0.10			
19	-0.01	0.328	0.10				0.10	0.374	0.12	1.00	0.303	0.10	1.00	0.308	0.10			
19.5	-0.01	0.329	0.10				0.10	0.378	0.12	1.00	0.304	0.10	1.00	0.307	0.10			
20	-0.01	0.329	0.10				0.10	0.382	0.12	1.00	0.304	0.10						

Supplemental Table 4b LMS values for Lumbar Spine BMAD – GE LUNAR iDXA Encore versions 10.0 -15.0

Age (years)	GE Lunar iDXA - Girls									GE Lunar iDXA - Boys								
	White			Asian			Black			White			Asian			Black		
	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S
4	-0.01	0.263	0.11							1.00	0.254	0.11						
4.5	-0.01	0.263	0.11							1.00	0.254	0.11						
5	-0.01	0.264	0.11	1.00	0.259	0.09				1.00	0.254	0.11	-0.05	0.259	0.10	1.00	0.256	0.10
5.5	-0.01	0.264	0.11	1.00	0.261	0.09	1.00	0.268	0.12	1.00	0.254	0.11	-0.05	0.258	0.10	1.00	0.257	0.10
6	-0.01	0.264	0.11	1.00	0.263	0.09	1.00	0.270	0.12	1.00	0.254	0.11	-0.05	0.258	0.10	1.00	0.259	0.10
6.5	-0.01	0.264	0.11	1.00	0.265	0.09	1.00	0.272	0.12	1.00	0.255	0.11	-0.05	0.258	0.10	1.00	0.260	0.10
7	-0.01	0.265	0.11	1.00	0.267	0.09	1.00	0.273	0.12	1.00	0.255	0.11	-0.05	0.258	0.10	1.00	0.262	0.10
7.5	-0.01	0.265	0.11	1.00	0.269	0.09	1.00	0.275	0.12	1.00	0.255	0.11	-0.05	0.258	0.10	1.00	0.263	0.10
8	-0.01	0.265	0.11	1.00	0.272	0.09	1.00	0.276	0.12	1.00	0.256	0.11	-0.05	0.258	0.10	1.00	0.264	0.10
8.5	-0.01	0.266	0.11	1.00	0.274	0.09	1.00	0.278	0.12	1.00	0.256	0.11	-0.05	0.258	0.10	1.00	0.266	0.10
9	-0.01	0.266	0.11	1.00	0.277	0.09	1.00	0.280	0.12	1.00	0.256	0.11	-0.05	0.257	0.10	1.00	0.267	0.10
9.5	-0.01	0.267	0.11	1.00	0.279	0.09	1.00	0.282	0.12	1.00	0.256	0.11	-0.05	0.257	0.10	1.00	0.268	0.10
10	-0.01	0.269	0.11	1.00	0.282	0.09	1.00	0.285	0.12	1.00	0.256	0.11	-0.05	0.257	0.10	1.00	0.269	0.10
10.5	-0.01	0.270	0.11	1.00	0.285	0.09	1.00	0.288	0.12	1.00	0.256	0.11	-0.05	0.256	0.10	1.00	0.270	0.10
11	-0.01	0.273	0.11	1.00	0.287	0.09	1.00	0.293	0.12	1.00	0.256	0.11	-0.05	0.256	0.10	1.00	0.271	0.10
11.5	-0.01	0.276	0.11	1.00	0.290	0.09	1.00	0.298	0.12	1.00	0.256	0.11	-0.05	0.257	0.10	1.00	0.273	0.10
12	-0.01	0.281	0.11	1.00	0.294	0.09	1.00	0.305	0.12	1.00	0.257	0.11	-0.05	0.257	0.10	1.00	0.274	0.10
12.5	-0.01	0.287	0.11	1.00	0.299	0.09	1.00	0.314	0.12	1.00	0.258	0.11	-0.05	0.260	0.10	1.00	0.276	0.10
13	-0.01	0.295	0.11	1.00	0.304	0.09	1.00	0.322	0.12	1.00	0.259	0.11	-0.05	0.263	0.10	1.00	0.277	0.10
13.5	-0.01	0.303	0.11	1.00	0.310	0.09	1.00	0.331	0.12	1.00	0.262	0.11	-0.05	0.267	0.10	1.00	0.279	0.10
14	-0.01	0.311	0.11	1.00	0.315	0.09	1.00	0.339	0.12	1.00	0.267	0.11	-0.05	0.272	0.10	1.00	0.281	0.10
14.5	-0.01	0.317	0.11	1.00	0.320	0.09	1.00	0.345	0.12	1.00	0.274	0.11	-0.05	0.279	0.10	1.00	0.284	0.10
15	-0.01	0.320	0.11	1.00	0.324	0.09	1.00	0.350	0.12	1.00	0.281	0.11	-0.05	0.288	0.10	1.00	0.287	0.10
15.5	-0.01	0.322	0.11	1.00	0.327	0.09	1.00	0.353	0.12	1.00	0.286	0.11	-0.05	0.294	0.10	1.00	0.290	0.10
16	-0.01	0.323	0.11	1.00	0.329	0.09	1.00	0.356	0.12	1.00	0.291	0.11	-0.05	0.298	0.10	1.00	0.294	0.10
16.5	-0.01	0.324	0.11	1.00	0.331	0.09	1.00	0.358	0.12	1.00	0.295	0.11	-0.05	0.301	0.10	1.00	0.299	0.10
17	-0.01	0.325	0.11	1.00	0.332	0.09	1.00	0.361	0.12	1.00	0.297	0.11	-0.05	0.303	0.10	1.00	0.303	0.10
17.5	-0.01	0.325	0.11	1.00	0.333	0.09	1.00	0.364	0.12	1.00	0.299	0.11	-0.05	0.303	0.10	1.00	0.308	0.10
18	-0.01	0.326	0.11	1.00	0.334	0.09	1.00	0.366	0.12	1.00	0.300	0.11	-0.05	0.303	0.10	1.00	0.312	0.10
18.5	-0.01	0.326	0.11	1.00	0.334	0.09	1.00	0.370	0.12	1.00	0.301	0.11	-0.05	0.304	0.10			
19	-0.01	0.326	0.11				1.00	0.373	0.12	1.00	0.301	0.11	-0.05	0.304	0.10			
19.5	-0.01	0.326	0.11				1.00	0.376	0.12	1.00	0.302	0.11	-0.05	0.304	0.10			
20	-0.01	0.326	0.11				1.00	0.379	0.12	1.00	0.302	0.11						

Supplemental Table 4c LMS values for Lumbar Spine BMAD – HOLOGIC DISCOVERY versions 12 -Apex 4

Age (years)	Hologic - Girls			Hologic - Boys		
	White			White		
	L	M	S	L	M	S
4						
4.5	1.00	0.178	0.11			
5	1.00	0.178	0.11	1.00	0.173	0.15
5.5	1.00	0.180	0.11	1.00	0.174	0.14
6	1.00	0.182	0.11	1.00	0.175	0.14
6.5	1.00	0.183	0.11	1.00	0.175	0.14
7	1.00	0.185	0.11	1.00	0.176	0.14
7.5	1.00	0.187	0.11	1.00	0.177	0.14
8	1.00	0.189	0.11	1.00	0.178	0.14
8.5	1.00	0.191	0.11	1.00	0.179	0.14
9	1.00	0.193	0.11	1.00	0.180	0.14
9.5	1.00	0.196	0.11	1.00	0.182	0.14
10	1.00	0.198	0.11	1.00	0.183	0.14
10.5	1.00	0.202	0.11	1.00	0.185	0.13
11	1.00	0.206	0.11	1.00	0.187	0.13
11.5	1.00	0.212	0.11	1.00	0.190	0.13
12	1.00	0.217	0.11	1.00	0.193	0.13
12.5	1.00	0.223	0.11	1.00	0.197	0.12
13	1.00	0.229	0.11	1.00	0.203	0.12
13.5	1.00	0.234	0.11	1.00	0.209	0.12
14	1.00	0.238	0.11	1.00	0.215	0.11
14.5	1.00	0.242	0.11	1.00	0.222	0.11
15	1.00	0.245	0.11	1.00	0.228	0.10
15.5	1.00	0.248	0.11	1.00	0.234	0.10
16	1.00	0.250	0.11	1.00	0.238	0.10
16.5	1.00	0.252	0.11	1.00	0.242	0.09
17	1.00	0.254	0.11	1.00	0.244	0.09
17.5	1.00	0.255	0.11	1.00	0.246	0.09
18	1.00	0.256	0.11	1.00	0.248	0.09
18.5	1.00	0.258	0.11	1.00	0.249	0.09
19	1.00	0.259	0.11	1.00	0.250	0.09
19.5	1.00	0.260	0.11	1.00	0.250	0.08
20	1.00	0.261	0.11	1.00	0.251	0.08

Supplemental Table 5a LMS values for L1L4 BMD– GE LUNAR PRODIGY Encore versions 10.0 -15.0

Age	GE Lunar Prodigy - Girls									GE Lunar Prodigy - Boys								
	White			Asian + White			Black			White			Asian + White			Black		
	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S
4	-0.16	0.613	0.09	-0.05	0.607	0.10				1.00	0.609	0.12	0.52	0.606	0.11			
4.5	-0.16	0.625	0.09	-0.05	0.619	0.10				1.00	0.615	0.12	0.52	0.612	0.11			
5	-0.16	0.636	0.09	-0.05	0.631	0.10				1.00	0.626	0.12	0.52	0.623	0.11	1.00	0.638	0.10
5.5	-0.16	0.648	0.09	-0.05	0.643	0.10	1.00	0.654	0.12	1.00	0.636	0.12	0.52	0.634	0.11	1.00	0.655	0.10
6	-0.16	0.659	0.10	-0.05	0.656	0.10	1.00	0.676	0.12	1.00	0.647	0.12	0.52	0.645	0.11	1.00	0.671	0.10
6.5	-0.16	0.670	0.10	-0.05	0.668	0.10	1.00	0.697	0.12	1.00	0.659	0.12	0.52	0.657	0.11	1.00	0.688	0.10
7	-0.16	0.681	0.10	-0.05	0.680	0.11	1.00	0.715	0.12	1.00	0.670	0.12	0.52	0.669	0.11	1.00	0.706	0.10
7.5	-0.16	0.693	0.10	-0.05	0.692	0.11	1.00	0.732	0.12	1.00	0.682	0.12	0.52	0.681	0.11	1.00	0.724	0.10
8	-0.16	0.705	0.11	-0.05	0.705	0.11	1.00	0.749	0.12	1.00	0.693	0.12	0.52	0.692	0.11	1.00	0.741	0.10
8.5	-0.16	0.717	0.11	-0.05	0.720	0.11	1.00	0.767	0.12	1.00	0.705	0.12	0.52	0.704	0.11	1.00	0.758	0.10
9	-0.16	0.732	0.11	-0.05	0.735	0.11	1.00	0.788	0.12	1.00	0.717	0.12	0.52	0.716	0.11	1.00	0.776	0.10
9.5	-0.16	0.748	0.11	-0.05	0.752	0.12	1.00	0.811	0.12	1.00	0.729	0.12	0.52	0.728	0.11	1.00	0.793	0.10
10	-0.16	0.767	0.12	-0.05	0.773	0.12	1.00	0.839	0.12	1.00	0.742	0.12	0.52	0.740	0.12	1.00	0.811	0.10
10.5	-0.16	0.791	0.12	-0.05	0.797	0.12	1.00	0.875	0.12	1.00	0.755	0.12	0.52	0.752	0.12	1.00	0.828	0.10
11	-0.16	0.819	0.12	-0.05	0.825	0.12	1.00	0.915	0.12	1.00	0.769	0.12	0.52	0.766	0.12	1.00	0.847	0.10
11.5	-0.16	0.853	0.13	-0.05	0.857	0.12	1.00	0.959	0.12	1.00	0.784	0.12	0.52	0.781	0.12	1.00	0.866	0.10
12	-0.16	0.891	0.13	-0.05	0.895	0.13	1.00	1.008	0.12	1.00	0.802	0.12	0.52	0.800	0.12	1.00	0.887	0.10
12.5	-0.16	0.932	0.13	-0.05	0.936	0.13	1.00	1.059	0.12	1.00	0.825	0.12	0.52	0.823	0.12	1.00	0.908	0.10
13	-0.16	0.978	0.13	-0.05	0.981	0.12	1.00	1.110	0.12	1.00	0.854	0.12	0.52	0.852	0.12	1.00	0.930	0.10
13.5	-0.16	1.023	0.12	-0.05	1.024	0.12	1.00	1.158	0.12	1.00	0.892	0.12	0.52	0.887	0.12	1.00	0.953	0.10
14	-0.16	1.063	0.12	-0.05	1.062	0.12	1.00	1.200	0.12	1.00	0.936	0.12	0.52	0.929	0.12	1.00	0.977	0.10
14.5	-0.16	1.095	0.12	-0.05	1.092	0.12	1.00	1.233	0.12	1.00	0.983	0.12	0.52	0.975	0.12	1.00	1.004	0.10
15	-0.16	1.121	0.11	-0.05	1.116	0.11	1.00	1.256	0.12	1.00	1.027	0.12	0.52	1.019	0.12	1.00	1.033	0.10
15.5	-0.16	1.140	0.11	-0.05	1.135	0.11	1.00	1.271	0.12	1.00	1.066	0.12	0.52	1.059	0.12	1.00	1.064	0.10
16	-0.16	1.154	0.11	-0.05	1.149	0.11	1.00	1.281	0.12	1.00	1.097	0.12	0.52	1.092	0.12	1.00	1.098	0.10
16.5	-0.16	1.165	0.10	-0.05	1.159	0.11	1.00	1.290	0.12	1.00	1.120	0.12	0.52	1.118	0.12	1.00	1.134	0.10
17	-0.16	1.173	0.10	-0.05	1.167	0.11	1.00	1.299	0.12	1.00	1.138	0.12	0.52	1.138	0.13	1.00	1.172	0.10
17.5	-0.16	1.178	0.10	-0.05	1.173	0.10	1.00	1.306	0.12	1.00	1.153	0.12	0.52	1.154	0.13	1.00	1.210	0.10
18	-0.16	1.182	0.10	-0.05	1.177	0.10	1.00	1.314	0.12	1.00	1.166	0.12	0.52	1.167	0.13	1.00	1.241	0.10
18.5	-0.16	1.185	0.10	-0.05	1.181	0.10	1.00	1.321	0.12	1.00	1.177	0.12	0.52	1.178	0.13			
19	-0.16	1.187	0.10	-0.05	1.183	0.10	1.00	1.328	0.12	1.00	1.188	0.12	0.52	1.189	0.13			
19.5	-0.16	1.188	0.10	-0.05	1.185	0.10	1.00	1.336	0.12	1.00	1.197	0.12	0.52	1.199	0.13			
20	-0.16	1.189	0.10	-0.05	1.187	0.10	1.00	1.343	0.12	1.00	1.207	0.12	0.52	1.208	0.13			

Supplemental Table 5b LMS values for L1L4 BMD– GE LUNAR iDXA Encore versions 10.0 -15.0

Age	GE Lunar iDXA - Girls									GE Lunar iDXA - Boys								
	White			Asian + White			Black			White			Asian + White			Black		
	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S
4	0.15	0.604	0.09	0.19	0.598	0.10				1.00	0.595	0.12	0.54	0.591	0.12			
4.5	0.15	0.616	0.09	0.19	0.611	0.10				1.00	0.602	0.12	0.54	0.599	0.12			
5	0.15	0.628	0.09	0.19	0.623	0.10				1.00	0.614	0.12	0.54	0.611	0.12	1.00	0.629	0.10
5.5	0.15	0.640	0.10	0.19	0.636	0.10	1.00	0.646	0.12	1.00	0.626	0.12	0.54	0.624	0.12	1.00	0.646	0.10
6	0.15	0.652	0.10	0.19	0.648	0.10	1.00	0.668	0.12	1.00	0.639	0.12	0.54	0.636	0.12	1.00	0.663	0.10
6.5	0.15	0.664	0.10	0.19	0.661	0.11	1.00	0.688	0.12	1.00	0.653	0.12	0.54	0.650	0.12	1.00	0.680	0.10
7	0.15	0.676	0.10	0.19	0.674	0.11	1.00	0.706	0.12	1.00	0.667	0.12	0.54	0.664	0.12	1.00	0.697	0.10
7.5	0.15	0.688	0.11	0.19	0.687	0.11	1.00	0.723	0.12	1.00	0.680	0.12	0.54	0.677	0.12	1.00	0.715	0.10
8	0.15	0.701	0.11	0.19	0.701	0.11	1.00	0.741	0.12	1.00	0.694	0.12	0.54	0.691	0.12	1.00	0.732	0.10
8.5	0.15	0.715	0.11	0.19	0.716	0.11	1.00	0.759	0.12	1.00	0.707	0.12	0.54	0.704	0.12	1.00	0.750	0.10
9	0.15	0.731	0.12	0.19	0.732	0.12	1.00	0.779	0.12	1.00	0.720	0.12	0.54	0.717	0.12	1.00	0.767	0.10
9.5	0.15	0.748	0.12	0.19	0.750	0.12	1.00	0.803	0.12	1.00	0.732	0.12	0.54	0.729	0.12	1.00	0.784	0.10
10	0.15	0.768	0.12	0.19	0.771	0.12	1.00	0.831	0.12	1.00	0.744	0.12	0.54	0.740	0.12	1.00	0.802	0.10
10.5	0.15	0.791	0.13	0.19	0.794	0.12	1.00	0.866	0.12	1.00	0.755	0.12	0.54	0.751	0.12	1.00	0.819	0.10
11	0.15	0.819	0.13	0.19	0.822	0.13	1.00	0.906	0.12	1.00	0.768	0.12	0.54	0.764	0.12	1.00	0.838	0.10
11.5	0.15	0.852	0.13	0.19	0.855	0.13	1.00	0.950	0.12	1.00	0.781	0.12	0.54	0.778	0.12	1.00	0.857	0.10
12	0.15	0.890	0.13	0.19	0.892	0.13	1.00	0.999	0.12	1.00	0.798	0.12	0.54	0.795	0.12	1.00	0.878	0.10
12.5	0.15	0.931	0.13	0.19	0.933	0.13	1.00	1.050	0.12	1.00	0.819	0.12	0.54	0.817	0.12	1.00	0.899	0.10
13	0.15	0.977	0.13	0.19	0.978	0.13	1.00	1.101	0.12	1.00	0.848	0.12	0.54	0.845	0.12	1.00	0.921	0.10
13.5	0.15	1.021	0.13	0.19	1.021	0.13	1.00	1.149	0.12	1.00	0.884	0.12	0.54	0.880	0.12	1.00	0.944	0.10
14	0.15	1.060	0.12	0.19	1.058	0.12	1.00	1.191	0.12	1.00	0.927	0.12	0.54	0.922	0.12	1.00	0.968	0.10
14.5	0.15	1.092	0.12	0.19	1.088	0.12	1.00	1.224	0.12	1.00	0.975	0.12	0.54	0.968	0.12	1.00	0.995	0.10
15	0.15	1.116	0.12	0.19	1.112	0.12	1.00	1.247	0.12	1.00	1.021	0.12	0.54	1.014	0.12	1.00	1.024	0.10
15.5	0.15	1.135	0.11	0.19	1.130	0.11	1.00	1.262	0.12	1.00	1.062	0.12	0.54	1.055	0.12	1.00	1.055	0.10
16	0.15	1.149	0.11	0.19	1.143	0.11	1.00	1.272	0.12	1.00	1.094	0.12	0.54	1.090	0.12	1.00	1.089	0.10
16.5	0.15	1.159	0.11	0.19	1.154	0.11	1.00	1.281	0.12	1.00	1.119	0.12	0.54	1.116	0.12	1.00	1.125	0.10
17	0.15	1.167	0.11	0.19	1.162	0.11	1.00	1.289	0.12	1.00	1.137	0.12	0.54	1.136	0.12	1.00	1.163	0.10
17.5	0.15	1.173	0.10	0.19	1.167	0.11	1.00	1.297	0.12	1.00	1.152	0.12	0.54	1.151	0.12	1.00	1.201	0.10
18	0.15	1.177	0.10	0.19	1.171	0.11	1.00	1.304	0.12	1.00	1.165	0.12	0.54	1.163	0.12	1.00	1.232	0.10
18.5	0.15	1.179	0.10	0.19	1.175	0.10	1.00	1.311	0.12	1.00	1.175	0.12	0.54	1.174	0.12			
19	0.15	1.181	0.10	0.19	1.177	0.10	1.00	1.319	0.12	1.00	1.185	0.12	0.54	1.184	0.12			
19.5	0.15	1.183	0.10	0.19	1.179	0.10	1.00	1.326	0.12	1.00	1.194	0.12	0.54	1.193	0.12			
20	0.15	1.184	0.10	0.19	1.181	0.10	1.00	1.333	0.12	1.00	1.203	0.12	0.54	1.202	0.12			

Supplemental Table 5c LMS values for L1L4 BMD– HOLOGIC DISCOVERY versions 12 -Apex 4

Age	Hologic - Girls			Hologic - Boys		
	White			White		
	L	M	S	L	M	S
4						
4.5	1.00	0.480	0.12	1.00	0.495	0.12
5	1.00	0.482	0.12	1.00	0.500	0.12
5.5	1.00	0.495	0.12	1.00	0.508	0.12
6	1.00	0.508	0.12	1.00	0.516	0.12
6.5	1.00	0.521	0.12	1.00	0.525	0.12
7	1.00	0.535	0.12	1.00	0.533	0.12
7.5	1.00	0.549	0.12	1.00	0.541	0.12
8	1.00	0.563	0.12	1.00	0.551	0.12
8.5	1.00	0.578	0.12	1.00	0.561	0.12
9	1.00	0.594	0.12	1.00	0.572	0.12
9.5	1.00	0.612	0.12	1.00	0.585	0.12
10	1.00	0.632	0.12	1.00	0.599	0.12
10.5	1.00	0.655	0.12	1.00	0.616	0.12
11	1.00	0.682	0.12	1.00	0.636	0.12
11.5	1.00	0.711	0.12	1.00	0.660	0.12
12	1.00	0.743	0.12	1.00	0.688	0.12
12.5	1.00	0.776	0.12	1.00	0.721	0.12
13	1.00	0.809	0.12	1.00	0.758	0.12
13.5	1.00	0.839	0.12	1.00	0.798	0.12
14	1.00	0.865	0.12	1.00	0.838	0.12
14.5	1.00	0.887	0.12	1.00	0.877	0.12
15	1.00	0.906	0.12	1.00	0.911	0.12
15.5	1.00	0.922	0.12	1.00	0.940	0.12
16	1.00	0.935	0.12	1.00	0.965	0.12
16.5	1.00	0.947	0.12	1.00	0.984	0.12
17	1.00	0.957	0.12	1.00	1.000	0.12
17.5	1.00	0.967	0.12	1.00	1.014	0.12
18	1.00	0.976	0.12	1.00	1.026	0.12
18.5	1.00	0.984	0.12	1.00	1.037	0.12
19	1.00	0.992	0.12	1.00	1.048	0.12
19.5	1.00	1.000	0.12	1.00	1.058	0.12
20	1.00	1.008	0.12			

Supplemental Table 6a LMS values for Total Body Less Head BMD– GE LUNAR PRODIGY Encore versions 10.0 -15.0

Age	GE Lunar Prodigy - Girls									GE Lunar Prodigy - Boys								
	White			White +Asian			Black			White			White + Asian			Black		
	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S
4	0.00	0.587	0.05	-0.07	0.584	0.05				1.00	0.604	0.06	1.00	0.596	0.06			
4.5	0.00	0.604	0.05	-0.07	0.600	0.05				1.00	0.613	0.06	1.00	0.606	0.06			
5	0.00	0.620	0.05	-0.07	0.617	0.06				1.00	0.628	0.06	1.00	0.623	0.06	1.00	0.656	0.05
5.5	0.00	0.636	0.06	-0.07	0.633	0.06	1.00	0.668	0.06	1.00	0.643	0.06	1.00	0.639	0.06	1.00	0.679	0.05
6	0.00	0.652	0.06	-0.07	0.649	0.06	1.00	0.683	0.06	1.00	0.658	0.06	1.00	0.656	0.06	1.00	0.701	0.06
6.5	0.00	0.667	0.06	-0.07	0.665	0.06	1.00	0.699	0.06	1.00	0.673	0.06	1.00	0.672	0.07	1.00	0.721	0.06
7	0.00	0.682	0.06	-0.07	0.680	0.06	1.00	0.715	0.06	1.00	0.688	0.06	1.00	0.687	0.07	1.00	0.740	0.06
7.5	0.00	0.696	0.06	-0.07	0.695	0.07	1.00	0.732	0.06	1.00	0.702	0.07	1.00	0.702	0.07	1.00	0.759	0.06
8	0.00	0.711	0.07	-0.07	0.711	0.07	1.00	0.750	0.06	1.00	0.717	0.07	1.00	0.717	0.07	1.00	0.775	0.06
8.5	0.00	0.727	0.07	-0.07	0.726	0.07	1.00	0.770	0.07	1.00	0.733	0.07	1.00	0.733	0.07	1.00	0.792	0.06
9	0.00	0.743	0.07	-0.07	0.743	0.07	1.00	0.792	0.07	1.00	0.750	0.07	1.00	0.749	0.07	1.00	0.809	0.06
9.5	0.00	0.761	0.07	-0.07	0.761	0.07	1.00	0.814	0.07	1.00	0.767	0.07	1.00	0.766	0.07	1.00	0.827	0.07
10	0.00	0.781	0.07	-0.07	0.781	0.08	1.00	0.840	0.07	1.00	0.785	0.07	1.00	0.782	0.07	1.00	0.847	0.07
10.5	0.00	0.802	0.08	-0.07	0.802	0.08	1.00	0.868	0.07	1.00	0.803	0.07	1.00	0.800	0.07	1.00	0.867	0.07
11	0.00	0.825	0.08	-0.07	0.825	0.08	1.00	0.897	0.07	1.00	0.822	0.07	1.00	0.818	0.07	1.00	0.887	0.07
11.5	0.00	0.848	0.08	-0.07	0.848	0.08	1.00	0.925	0.08	1.00	0.842	0.08	1.00	0.839	0.08	1.00	0.908	0.07
12	0.00	0.872	0.08	-0.07	0.872	0.08	1.00	0.955	0.08	1.00	0.864	0.08	1.00	0.861	0.08	1.00	0.931	0.07
12.5	0.00	0.896	0.08	-0.07	0.896	0.08	1.00	0.985	0.08	1.00	0.888	0.08	1.00	0.886	0.08	1.00	0.953	0.07
13	0.00	0.920	0.08	-0.07	0.919	0.08	1.00	1.015	0.08	1.00	0.915	0.08	1.00	0.913	0.08	1.00	0.974	0.08
13.5	0.00	0.942	0.08	-0.07	0.941	0.08	1.00	1.044	0.08	1.00	0.944	0.08	1.00	0.942	0.08	1.00	0.994	0.08
14	0.00	0.962	0.08	-0.07	0.960	0.08	1.00	1.069	0.09	1.00	0.974	0.08	1.00	0.973	0.08	1.00	1.013	0.08
14.5	0.00	0.979	0.08	-0.07	0.976	0.08	1.00	1.088	0.09	1.00	1.003	0.09	1.00	1.002	0.09	1.00	1.031	0.08
15	0.00	0.993	0.07	-0.07	0.989	0.08	1.00	1.102	0.09	1.00	1.030	0.09	1.00	1.029	0.09	1.00	1.049	0.08
15.5	0.00	1.004	0.07	-0.07	1.000	0.08	1.00	1.112	0.09	1.00	1.053	0.09	1.00	1.052	0.09	1.00	1.069	0.08
16	0.00	1.012	0.07	-0.07	1.008	0.07	1.00	1.118	0.09	1.00	1.073	0.09	1.00	1.073	0.09	1.00	1.091	0.09
16.5	0.00	1.018	0.07	-0.07	1.014	0.07	1.00	1.123	0.09	1.00	1.091	0.09	1.00	1.090	0.09	1.00	1.118	0.09
17	0.00	1.022	0.07	-0.07	1.018	0.07	1.00	1.128	0.09	1.00	1.107	0.09	1.00	1.105	0.09	1.00	1.149	0.09
17.5	0.00	1.025	0.07	-0.07	1.021	0.07	1.00	1.132	0.09	1.00	1.121	0.09	1.00	1.118	0.09	1.00	1.182	0.09
18	0.00	1.026	0.07	-0.07	1.023	0.07	1.00	1.135	0.09	1.00	1.133	0.09	1.00	1.130	0.09	1.00	1.210	0.09
18.5	0.00	1.026	0.07	-0.07	1.023	0.07	1.00	1.139	0.09	1.00	1.145	0.10	1.00	1.141	0.09			
19	0.00	1.026	0.07	-0.07	1.024	0.07	1.00	1.142	0.09	1.00	1.156	0.10	1.00	1.151	0.10			
19.5	0.00	1.027	0.07	-0.07	1.024	0.07	1.00	1.145	0.09	1.00	1.167	0.10	1.00	1.161	0.10			
20	0.00	1.028	0.07	-0.07	1.024	0.07	1.00	1.148	0.09	1.00	1.177	0.10	1.00	1.171	0.10			

Supplemental Table 6b LMS values for Total Body Less Head BMD– GE LUNAR PRODIGY ENHANCED Encore versions 14.0 -15.0

Age	GE Lunar Prodigy Enhanced - Girls									GE Lunar Prodigy Enhanced- Boys								
	White			White +Asian			Black			White			White +Asian			Black		
	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S
4	0.17	0.495	0.09	0.12	0.487	0.09				1.00	0.508	0.08	1.00	0.503	0.08			
4.5	0.17	0.511	0.09	0.12	0.505	0.09				1.00	0.518	0.08	1.00	0.510	0.08			
5	0.17	0.528	0.09	0.12	0.522	0.09				1.00	0.533	0.08	1.00	0.527	0.08	1.00	0.562	0.07
5.5	0.17	0.544	0.09	0.12	0.539	0.09	1.00	0.573	0.09	1.00	0.549	0.08	1.00	0.545	0.08	1.00	0.589	0.07
6	0.17	0.561	0.09	0.12	0.557	0.09	1.00	0.592	0.09	1.00	0.564	0.08	1.00	0.562	0.08	1.00	0.614	0.07
6.5	0.17	0.577	0.09	0.12	0.574	0.09	1.00	0.610	0.09	1.00	0.580	0.08	1.00	0.579	0.08	1.00	0.638	0.07
7	0.17	0.593	0.09	0.12	0.591	0.09	1.00	0.630	0.09	1.00	0.597	0.08	1.00	0.596	0.08	1.00	0.661	0.07
7.5	0.17	0.609	0.09	0.12	0.607	0.09	1.00	0.650	0.09	1.00	0.613	0.08	1.00	0.613	0.08	1.00	0.683	0.08
8	0.17	0.625	0.09	0.12	0.625	0.09	1.00	0.671	0.09	1.00	0.629	0.09	1.00	0.630	0.09	1.00	0.703	0.08
8.5	0.17	0.642	0.09	0.12	0.642	0.09	1.00	0.694	0.09	1.00	0.647	0.09	1.00	0.648	0.09	1.00	0.722	0.08
9	0.17	0.660	0.09	0.12	0.661	0.09	1.00	0.719	0.09	1.00	0.666	0.09	1.00	0.666	0.09	1.00	0.743	0.08
9.5	0.17	0.680	0.09	0.12	0.681	0.09	1.00	0.745	0.09	1.00	0.686	0.09	1.00	0.685	0.09	1.00	0.766	0.08
10	0.17	0.702	0.09	0.12	0.703	0.09	1.00	0.775	0.09	1.00	0.706	0.09	1.00	0.704	0.09	1.00	0.789	0.08
10.5	0.17	0.726	0.09	0.12	0.727	0.09	1.00	0.808	0.09	1.00	0.727	0.09	1.00	0.724	0.09	1.00	0.811	0.08
11	0.17	0.752	0.09	0.12	0.752	0.09	1.00	0.842	0.09	1.00	0.749	0.09	1.00	0.745	0.09	1.00	0.832	0.08
11.5	0.17	0.779	0.09	0.12	0.778	0.09	1.00	0.875	0.09	1.00	0.773	0.10	1.00	0.769	0.10	1.00	0.855	0.09
12	0.17	0.807	0.09	0.12	0.806	0.09	1.00	0.909	0.09	1.00	0.798	0.10	1.00	0.795	0.10	1.00	0.880	0.09
12.5	0.17	0.836	0.09	0.12	0.835	0.09	1.00	0.946	0.09	1.00	0.827	0.10	1.00	0.824	0.10	1.00	0.905	0.09
13	0.17	0.865	0.09	0.12	0.864	0.09	1.00	0.983	0.09	1.00	0.860	0.10	1.00	0.857	0.10	1.00	0.931	0.09
13.5	0.17	0.892	0.09	0.12	0.891	0.09	1.00	1.018	0.09	1.00	0.895	0.10	1.00	0.892	0.10	1.00	0.955	0.09
14	0.17	0.917	0.09	0.12	0.914	0.09	1.00	1.048	0.09	1.00	0.930	0.11	1.00	0.927	0.11	1.00	0.978	0.09
14.5	0.17	0.937	0.09	0.12	0.933	0.09	1.00	1.072	0.09	1.00	0.965	0.11	1.00	0.961	0.11	1.00	1.000	0.10
15	0.17	0.953	0.09	0.12	0.949	0.09	1.00	1.089	0.09	1.00	0.997	0.11	1.00	0.993	0.11	1.00	1.021	0.10
15.5	0.17	0.966	0.09	0.12	0.962	0.09	1.00	1.099	0.09	1.00	1.025	0.11	1.00	1.020	0.11	1.00	1.044	0.10
16	0.17	0.976	0.09	0.12	0.971	0.09	1.00	1.106	0.09	1.00	1.049	0.11	1.00	1.044	0.11	1.00	1.070	0.10
16.5	0.17	0.982	0.09	0.12	0.978	0.09	1.00	1.112	0.09	1.00	1.070	0.12	1.00	1.065	0.11	1.00	1.100	0.10
17	0.17	0.987	0.09	0.12	0.983	0.09	1.00	1.117	0.09	1.00	1.089	0.12	1.00	1.083	0.12	1.00	1.136	0.10
17.5	0.17	0.989	0.09	0.12	0.986	0.09	1.00	1.122	0.09	1.00	1.106	0.12	1.00	1.099	0.12	1.00	1.175	0.11
18	0.17	0.990	0.09	0.12	0.988	0.09	1.00	1.126	0.09	1.00	1.121	0.12	1.00	1.114	0.12	1.00	1.207	0.11
18.5	0.17	0.991	0.09	0.12	0.988	0.09	1.00	1.131	0.09	1.00	1.136	0.12	1.00	1.128	0.12			
19	0.17	0.992	0.09	0.12	0.989	0.09	1.00	1.135	0.09	1.00	1.149	0.12	1.00	1.142	0.12			
19.5	0.17	0.993	0.09	0.12	0.989	0.09	1.00	1.139	0.09	1.00	1.162	0.12	1.00	1.155	0.12			
20	0.17	0.995	0.09	0.12	0.990	0.09	1.00	1.142	0.09	1.00	1.175	0.12	1.00	1.168	0.12			

Supplemental Table 6c LMS values for Total Body Less Head BMD– GE LUNAR iDXA Encore versions 10.0 -15.0

Age	GE Lunar iDXA - Girls									GE Lunar iDXA - Boys								
	White			White +Asian			Black			White			White +Asian			Black		
	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S	L	M	S
4	0.08	0.478	0.07	0.10	0.472	0.07				0.29	0.490	0.08	1.00	0.486	0.08			
4.5	0.08	0.496	0.07	0.10	0.490	0.07				0.29	0.497	0.08	1.00	0.493	0.08			
5	0.08	0.513	0.07	0.10	0.507	0.08				0.29	0.514	0.08	1.00	0.511	0.08	1.00	0.548	0.07
5.5	0.08	0.530	0.07	0.10	0.525	0.08	1.00	0.559	0.10	0.29	0.531	0.08	1.00	0.530	0.08	1.00	0.575	0.07
6	0.08	0.548	0.08	0.10	0.543	0.08	1.00	0.578	0.10	0.29	0.548	0.08	1.00	0.548	0.08	1.00	0.601	0.07
6.5	0.08	0.565	0.08	0.10	0.561	0.08	1.00	0.597	0.10	0.29	0.566	0.08	1.00	0.566	0.09	1.00	0.625	0.08
7	0.08	0.581	0.08	0.10	0.579	0.08	1.00	0.617	0.10	0.29	0.583	0.09	1.00	0.585	0.09	1.00	0.649	0.08
7.5	0.08	0.598	0.08	0.10	0.596	0.09	1.00	0.638	0.10	0.29	0.601	0.09	1.00	0.603	0.09	1.00	0.671	0.08
8	0.08	0.615	0.08	0.10	0.614	0.09	1.00	0.659	0.10	0.29	0.619	0.09	1.00	0.622	0.09	1.00	0.691	0.08
8.5	0.08	0.633	0.09	0.10	0.632	0.09	1.00	0.683	0.10	0.29	0.639	0.09	1.00	0.640	0.09	1.00	0.711	0.08
9	0.08	0.651	0.09	0.10	0.651	0.09	1.00	0.708	0.10	0.29	0.658	0.09	1.00	0.659	0.09	1.00	0.733	0.08
9.5	0.08	0.671	0.09	0.10	0.671	0.09	1.00	0.735	0.10	0.29	0.678	0.09	1.00	0.678	0.09	1.00	0.756	0.08
10	0.08	0.693	0.09	0.10	0.693	0.10	1.00	0.765	0.10	0.29	0.697	0.09	1.00	0.697	0.09	1.00	0.779	0.08
10.5	0.08	0.716	0.10	0.10	0.717	0.10	1.00	0.799	0.10	0.29	0.717	0.09	1.00	0.716	0.09	1.00	0.801	0.09
11	0.08	0.741	0.10	0.10	0.742	0.10	1.00	0.833	0.10	0.29	0.737	0.10	1.00	0.736	0.10	1.00	0.823	0.09
11.5	0.08	0.768	0.10	0.10	0.768	0.10	1.00	0.866	0.10	0.29	0.759	0.10	1.00	0.758	0.10	1.00	0.846	0.09
12	0.08	0.795	0.10	0.10	0.796	0.10	1.00	0.902	0.10	0.29	0.783	0.10	1.00	0.783	0.10	1.00	0.871	0.09
12.5	0.08	0.824	0.10	0.10	0.825	0.10	1.00	0.939	0.10	0.29	0.810	0.10	1.00	0.812	0.10	1.00	0.898	0.09
13	0.08	0.853	0.10	0.10	0.854	0.10	1.00	0.977	0.10	0.29	0.841	0.10	1.00	0.844	0.10	1.00	0.923	0.09
13.5	0.08	0.881	0.10	0.10	0.881	0.10	1.00	1.012	0.10	0.29	0.875	0.10	1.00	0.879	0.10	1.00	0.948	0.09
14	0.08	0.905	0.10	0.10	0.904	0.10	1.00	1.043	0.10	0.29	0.911	0.11	1.00	0.915	0.11	1.00	0.972	0.10
14.5	0.08	0.926	0.10	0.10	0.924	0.10	1.00	1.067	0.10	0.29	0.946	0.11	1.00	0.951	0.11	1.00	0.994	0.10
15	0.08	0.943	0.09	0.10	0.940	0.09	1.00	1.084	0.10	0.29	0.980	0.11	1.00	0.984	0.11	1.00	1.016	0.10
15.5	0.08	0.956	0.09	0.10	0.953	0.09	1.00	1.095	0.10	0.29	1.010	0.11	1.00	1.014	0.11	1.00	1.039	0.10
16	0.08	0.967	0.09	0.10	0.963	0.09	1.00	1.102	0.10	0.29	1.037	0.11	1.00	1.039	0.11	1.00	1.065	0.10
16.5	0.08	0.975	0.09	0.10	0.971	0.09	1.00	1.108	0.10	0.29	1.061	0.12	1.00	1.061	0.11	1.00	1.096	0.10
17	0.08	0.980	0.09	0.10	0.976	0.09	1.00	1.113	0.10	0.29	1.082	0.12	1.00	1.081	0.12	1.00	1.132	0.11
17.5	0.08	0.983	0.09	0.10	0.980	0.09	1.00	1.118	0.10	0.29	1.101	0.12	1.00	1.098	0.12	1.00	1.172	0.11
18	0.08	0.985	0.09	0.10	0.982	0.09	1.00	1.123	0.10	0.29	1.118	0.12	1.00	1.114	0.12	1.00	1.204	0.11
18.5	0.08	0.986	0.09	0.10	0.984	0.09	1.00	1.127	0.10	0.29	1.134	0.12	1.00	1.128	0.12			
19	0.08	0.986	0.09	0.10	0.984	0.09	1.00	1.131	0.10	0.29	1.149	0.12	1.00	1.142	0.12			
19.5	0.08	0.987	0.09	0.10	0.984	0.09	1.00	1.135	0.10	0.29	1.163	0.12	1.00	1.156	0.12			
20	0.08	0.987	0.09	0.10	0.984	0.09	1.00	1.138	0.10	0.29	1.177	0.12	1.00	1.169	0.12			

Supplemental Table 6d LMS values for Total Body Less Head BMD – HOLOGIC DISCOVERY versions 12 -Apex 4

Age	Hologic - Girls			Hologic - Boys		
	White			White		
	L	M	S	L	M	S
4						
4.5	1.00	0.501	0.08			
5	1.00	0.505	0.08	1.00	0.541	0.08
5.5	1.00	0.525	0.08	1.00	0.552	0.08
6	1.00	0.545	0.08	1.00	0.569	0.08
6.5	1.00	0.565	0.08	1.00	0.587	0.08
7	1.00	0.586	0.08	1.00	0.604	0.08
7.5	1.00	0.606	0.08	1.00	0.622	0.08
8	1.00	0.626	0.08	1.00	0.641	0.08
8.5	1.00	0.647	0.08	1.00	0.661	0.08
9	1.00	0.668	0.08	1.00	0.681	0.08
9.5	1.00	0.690	0.08	1.00	0.699	0.08
10	1.00	0.712	0.08	1.00	0.717	0.08
10.5	1.00	0.734	0.08	1.00	0.734	0.08
11	1.00	0.756	0.08	1.00	0.751	0.08
11.5	1.00	0.778	0.08	1.00	0.768	0.08
12	1.00	0.800	0.08	1.00	0.786	0.08
12.5	1.00	0.822	0.08	1.00	0.807	0.08
13	1.00	0.842	0.08	1.00	0.833	0.08
13.5	1.00	0.860	0.08	1.00	0.863	0.08
14	1.00	0.876	0.08	1.00	0.896	0.08
14.5	1.00	0.890	0.08	1.00	0.930	0.08
15	1.00	0.902	0.08	1.00	0.961	0.08
15.5	1.00	0.913	0.08	1.00	0.990	0.08
16	1.00	0.921	0.08	1.00	1.015	0.08
16.5	1.00	0.929	0.08	1.00	1.036	0.08
17	1.00	0.937	0.08	1.00	1.053	0.08
17.5	1.00	0.943	0.08	1.00	1.068	0.08
18	1.00	0.950	0.08	1.00	1.080	0.08
18.5	1.00	0.956	0.08	1.00	1.091	0.08
19	1.00	0.962	0.08	1.00	1.102	0.08
19.5	1.00	0.969	0.08	1.00	1.112	0.08
20	1.00	0.975	0.08	1.00	1.123	0.08

Supplemental Table 7a Percentage of values above select centiles for GE Lunar Prodigy BMAD

Centile	Expected % Above	Observed % Above									
		Girls					Boys				
		White	Asian (White referent)	Asian	Black (White Referent)	Black	White	Asian (White Referent)	Asian	Black (White Referent)	Black
		n=906		n=183		n=148	n=847		n=190		n=128
95	5	5.0	3.8	4.4	2.0	5.4	4.6	1.1	5.8	2.3	3.9
90	10	9.4	4.4	9.3	5.4	11.5	10.3	5.8	8.4	3.1	8.6
75	25	23.8	13.7	25.7	14.9	24.3	25.1	18.9	26.7	11.7	20.3
50	50	50.2	37.7	49.2	29.1	50.7	49.6	43.2	51.8	29.7	58.6
25	75	75.2	69.9	75.4	52.7	75.0	76.3	67.4	75.9	60.2	74.2
10	90	89.3	85.2	87.4	71.6	87.8	90.4	85.3	88.5	81.3	90.6
5	95	94.8	94.5	93.4	80.4	93.9	94.8	90.5	94.8	91.4	95.3
Z-Score		NS	P<0.0001	NS	P<0.0001	NS	NS	P=0.0001	NS	P<0.0001	NS

Supplemental Table 7b Percentage of values above select centiles for GE Lunar iDXA BMAD

Centile	Expected % Above	Observed % Above									
		Girls					Boys				
		White	Asian (White Referent)	Asian	Black (White Referent)	Black	White	Asian (White Referent)	Asian	Black (White Referent)	Black
		n=1101		n=183		n=148	n=1012		n=190		n=128
95	5	4.9	3.8	4.9	2.7	4.1	4.6	1.1	6.8	2.3	4.7
90	10	9.2	4.4	8.2	5.4	9.5	9.8	6.8	7.9	3.1	8.6
75	25	24.0	14.2	26.2	14.9	24.3	25	21.1	26.3	11.7	21.1
50	50	50.7	39.9	51.9	31.8	52.0	49.7	45.3	49.5	31.3	57.8
25	75	75.4	71.6	74.9	56.8	77.0	76.7	68.4	74.7	64.8	75.0
10	90	88.7	86.9	85.2	75.7	87.8	90.3	86.3	89.5	82.0	89.8
5	95	94.7	96.2	93.4	82.4	93.9	94.8	91.6	94.7	92.2	94.5
Z-Score		NS	P=0.002	NS	P<0.0001	NS	NS	P=0.013	NS	P<0.0001	NS

Supplemental Table 7c Percentage of values above select centiles for Hologic Discovery Lumbar Spine BMAD

Centile	Expected % Above	Observed % Above	
		Girls	Boys
		n=262	n=325
95	5	4.6	5.5
90	10	10.3	9.5
75	25	24.5	25.5
50	50	46.7	49.2
25	75	75.1	73.8
10	90	90.0	89.8
5	95	94.3	96.6
Z-Score		NS	NS

Supplemental Table 7d Percentage of values above select centiles for GE Lunar Prodigy Lumbar Spine BMD

Centile	Expected % Above	Observed % Above									
		Girls					Boys				
		White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black	White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black
		n=905	n=183		n=148		n=849	n=190		n=128	
95	5	4.8	7.7	4.1	2.7	4.1	4.7	4.2	6.3	0.8	5.5
90	10	9.3	10.4	10.4	5.4	10.8	9.4	8.4	8.9	2.3	10.2
75	25	25.9	25.7	26.8	13.5	24.3	24.6	24.2	24.2	11.7	22.7
50	50	49.4	51.9	51.9	25.0	51.4	50.4	48.9	48.4	27.3	53.9
25	75	74.6	72.7	73.8	52.7	73.6	75.3	73.2	72.6	54.7	73.4
10	90	89.9	89.6	90.2	69.6	87.8	90.5	91.1	91.1	74.2	91.4
5	95	94.4	95.6	95.6	77.0	92.6	94.2	94.7	95.3	89.1	93.0
Z-Score		NS	NS	NS	P<0.0001	NS	NS	NS	NS	P<0.0001	NS

Supplemental Table 7e Percentage of values above select centiles for GE Lunar iDXA Lumbar Spine BMD

Centile	Expected % Above	Observed % Above									
		Girls					Boys				
		White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black	White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black
		n=1005	n=183		n=148		n=1014	n=190		n=128	
95	5	4.5	7.7	4.6	2.7	4.1	4.8	5.8	6.9	1.6	5.5
90	10	9.2	10.4	9.5	4.7	10.8	9.8	9.5	9.5	2.3	10.2
75	25	25.7	26.8	24.5	14.2	24.3	24.1	26.8	25.4	11.7	22.7
50	50	49.5	53.6	49.5	27.7	51.4	50.2	53.2	52.4	27.3	53.9
25	75	75.3	75.4	75.1	52.7	73.6	75.9	74.7	73.5	57.8	73.4
10	90	89.2	91.3	89.2	70.9	87.8	90.3	92.1	92.6	78.1	91.4
5	95	94.4	95.6	94.2	79.1	92.6	94.2	94.7	94.7	89.8	93.0
Z-Score		NS	NS	NS	P<0.0001	NS	NS	NS	NS	P<0.0001	NS

Supplemental Table 7f Percentage of values above select centiles for Hologic Discovery Lumbar Spine BMD

Centile	Expected % Above	Observed % Above	
		Girls	Boys
		n=261	n=325
95	5	4.2	5.8
90	10	9.2	10.8
75	25	23.4	23.1
50	50	50.2	48.6
25	75	76.6	77.5
10	90	88.9	89.5
5	95	93.1	95.1
Z-Score		NS	<u>NS</u>

Supplemental Table 7g Percentage of values above select centiles for GE Lunar Prodigy TBLHBMD

Centile	Expected % Above	Observed % Above									
		Girls					Boys				
		White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black	White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black
		n=960	n=184		n=147		n=904	n=191		n=128	
95	5	4.9	7.6	6.0	0.0	4.8	5.0	7.3	6.8	0.8	3.9
90	10	9.5	16.3	15.8	0.7	12.9	10.0	14.1	13.6	2.3	8.6
75	25	24.8	31.0	29.9	6.1	24.5	23.1	29.3	28.3	5.5	25.0
50	50	50.8	59.2	57.6	19.7	49.7	49.8	55	54.5	21.1	46.9
25	75	74.3	74.5	74.5	36.7	70.7	74.3	79.1	79.1	38.3	74.2
10	90	89.8	90.8	90.8	57.8	89.8	89.5	91.6	91.6	60.9	87.5
5	95	95.0	96.2	96.2	70.1	95.2	94.2	97.4	96.9	77.3	94.5
Z-Score		NS	NS	NS	P<0.0001	NS	NS	NS	NS	P<0.0001	NS

Supplemental Table 7h Percentage of values above select centiles for GE Lunar Prodigy Enhanced TBLHBMD

Centile	Expected % Above	Observed % Above									
		Girls					Boys				
		White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black	White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black
		n=853	n=183		n=147		n=780	n=190		n=124	
95	5	4.7	7.7	6.6	0.0	5.4	4.9	6.8	6.3	0	4.0
90	10	9.1	15.8	14.2	0.0	12.9	9.7	13.2	12.6	0.8	8.9
75	25	24.4	29.0	28.4	5.4	25.2	23.6	28.9	26.8	5.6	27.4
50	50	49.0	58.5	57.9	18.4	50.3	51.2	53.7	53.7	20.2	46.8
25	75	75.5	74.9	74.3	37.4	70.7	75.6	77.9	77.4	37.9	73.4
10	90	89.9	91.3	91.3	58.5	88.4	89.7	91.1	90.5	58.9	87.1
5	95	94.3	95.6	95.6	68.0	94.6	94.5	97.9	96.8	74.2	95.2
Z-Score		NS	NS	NS	P<0.0001	NS	NS	NS	NS	P<0.0001	NS

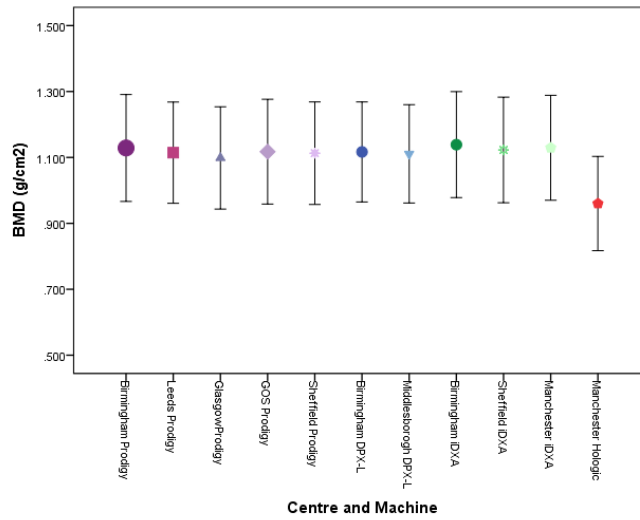
Supplemental Table 7i Percentage of values above select centiles for GE Lunar iDXA TBLHBMD

Centile	Expected % Above	Observed % Above									
		Girls					Boys				
		White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black	White	Asian (White Referent)	Asian (Asian + white referent)	Black (White Referent)	Black
		n=1049	n=183		n=147		n=946	n=190		n=124	
95	5	4.9	9.3	8.7	0	5.4	5.2	7.4	6.8	0.0	4.0
90	10	9.4	17.5	15.8	0.7	12.9	10.4	13.2	13.2	0.8	8.9
75	25	24.6	30.1	28.4	6.1	25.9	22.6	27.9	27.4	4.8	27.4
50	50	48.8	58.5	57.4	18.4	49.7	49.7	52.1	52.6	19.4	46.8
25	75	75.6	74.3	73.8	36.7	70.7	74.7	77.9	77.9	37.1	73.4
10	90	89.2	91.3	91.3	57.8	88.4	89.7	91.6	90.0	58.9	87.1
5	95	94.5	96.2	96.2	66.7	93.9	94.9	97.4	93.3	75.0	95.2
Z-Score		NS	NS	NS	P<0.0001	NS	NS	NS	NS	P<0.0001	NS

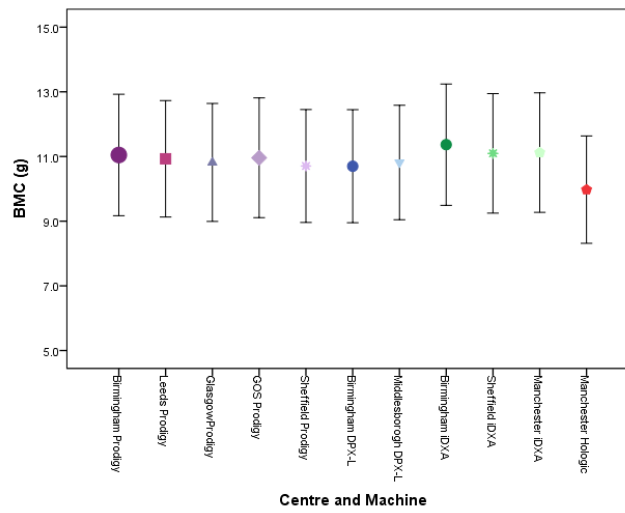
Supplemental Table 7j Percentage of values above select centiles for Hologic Discovery TBLHBMD

Centile	Expected % Above	Observed % Above	
		Girls	Boys
		n=262	n=323
95	5	3.8	5.0
90	10	8.8	9.3
75	25	24.4	22.6
50	50	5.1	51.7
25	75	77.9	78.6
10	90	89.3	88.9
5	95	95.0	92.9
Z-Score		NS	NS

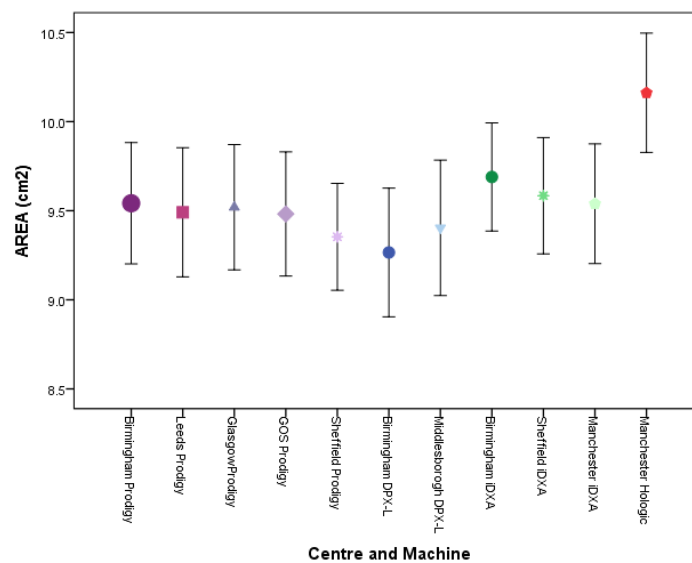
Supplemental Figure 1 Bone Densitometer Differences using the European Spine Phantom. Mean (\pm 95% CI)
A - Bone Density (g/cm^2)



B - Bone Mineral Content (g)

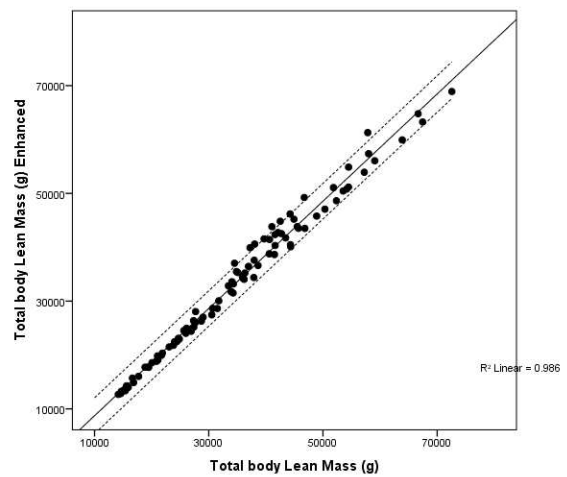
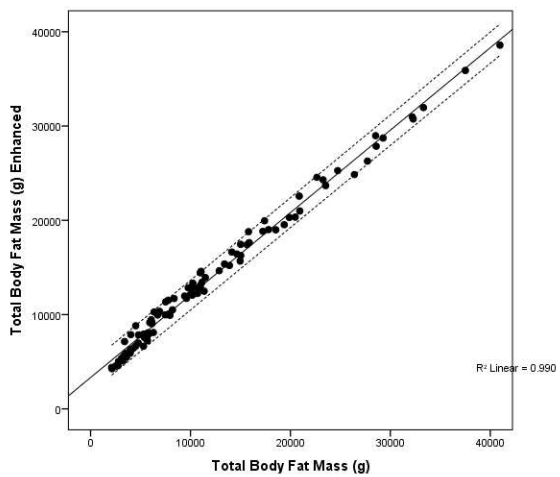
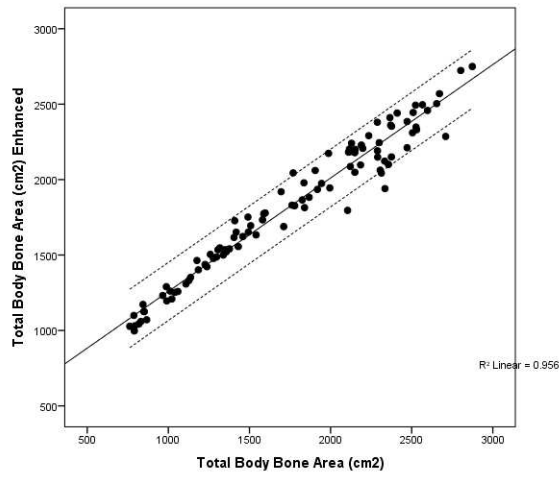
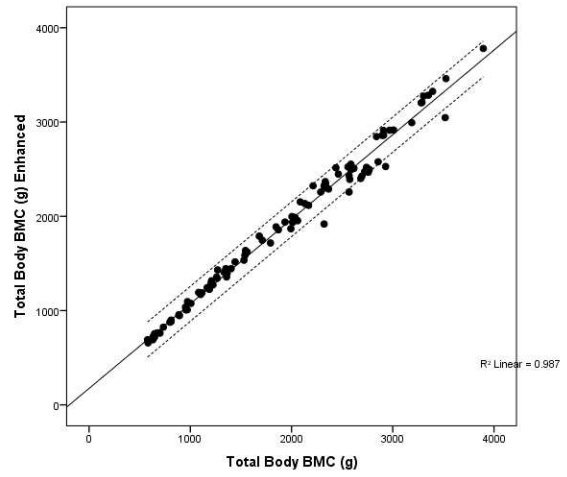
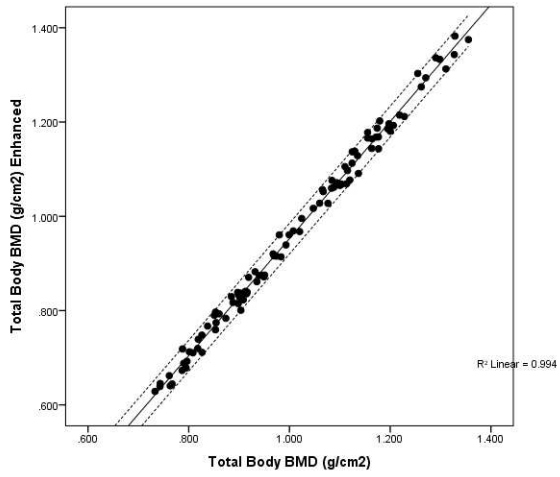


C - Bone Area (cm^2)

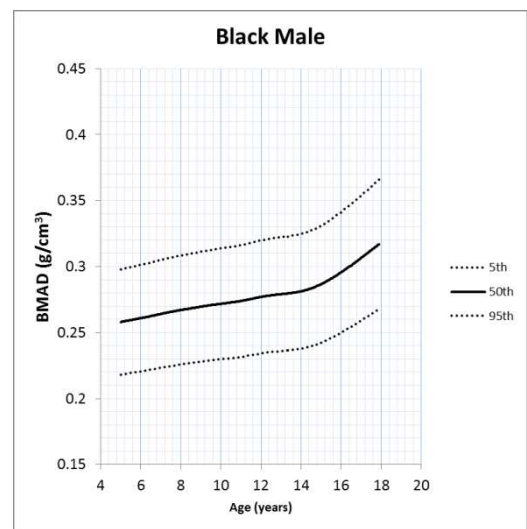
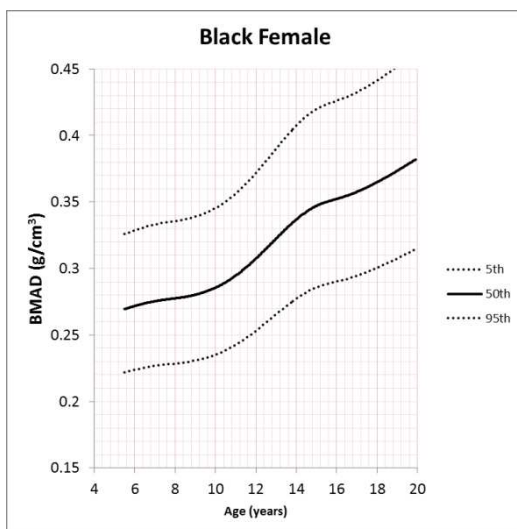
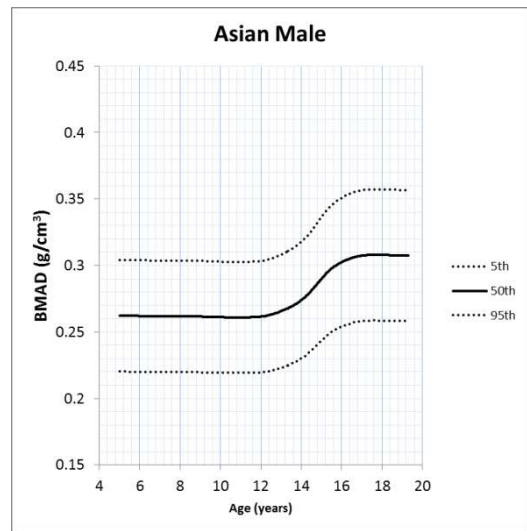
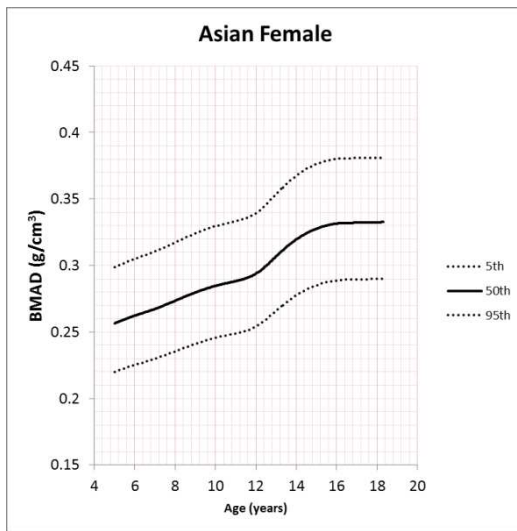
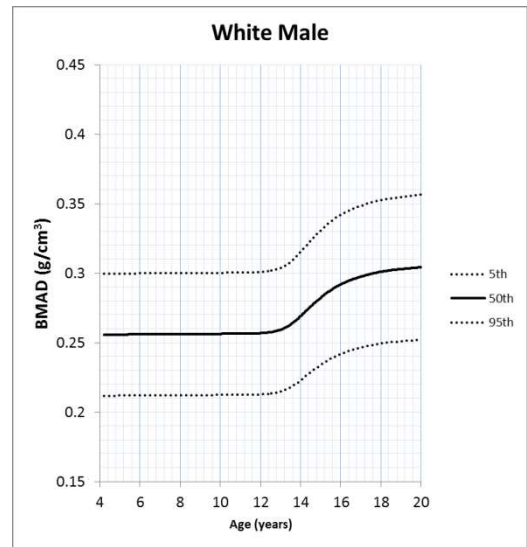
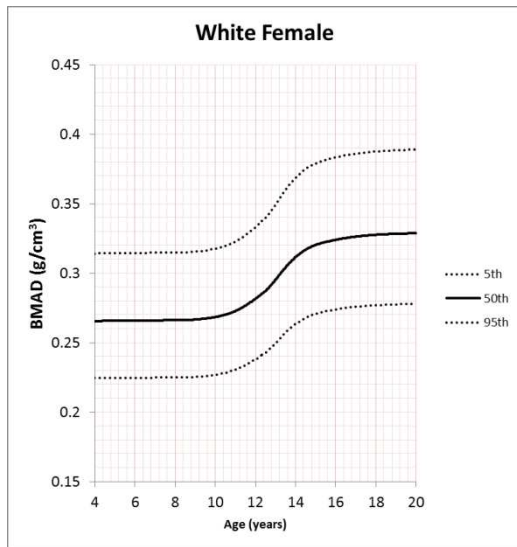


No Significant differences were detected between GE scanners, Hologic scanner estimated significantly higher bone area ($p= 0.010$).

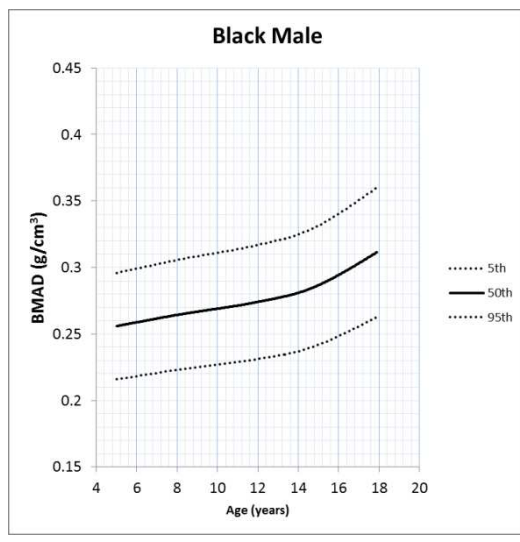
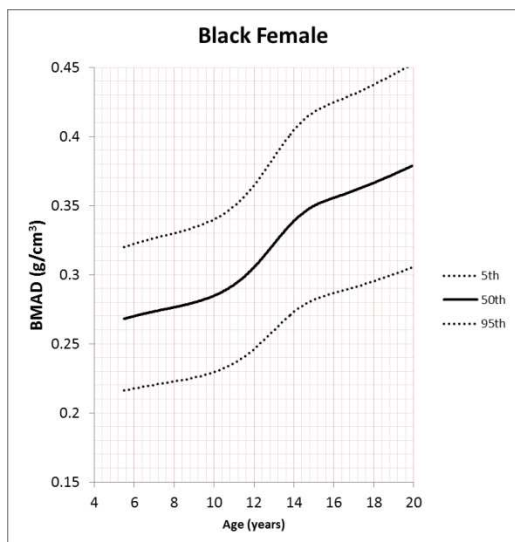
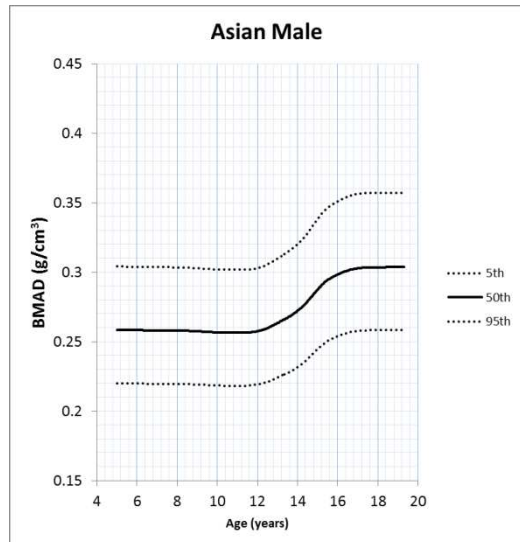
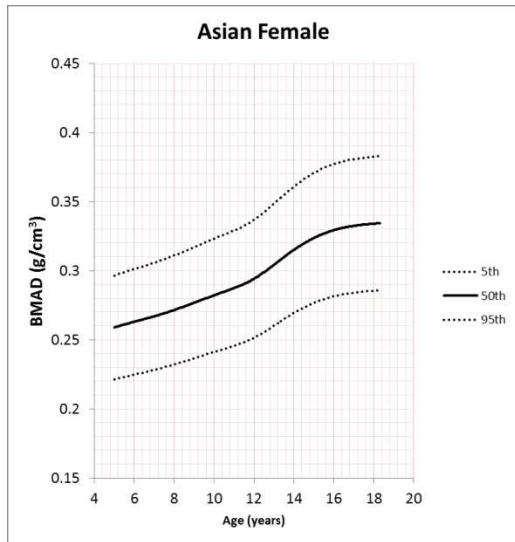
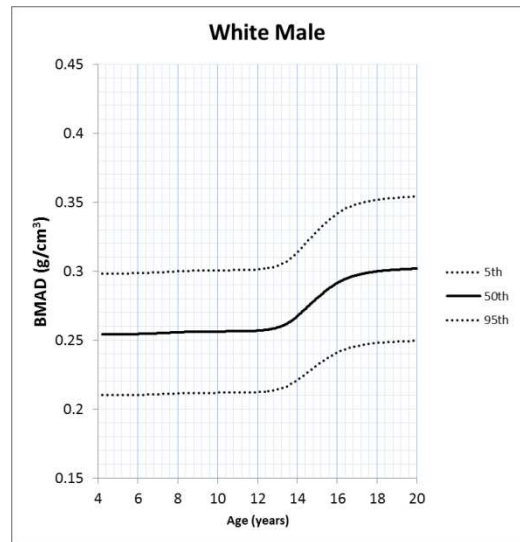
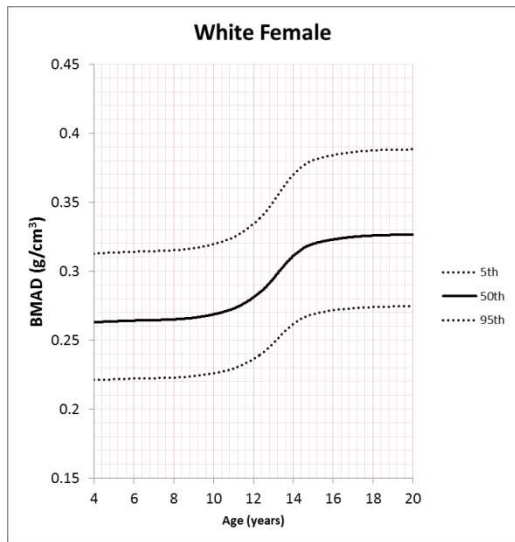
Supplemental Figure 2 Differences between GE Lunar Encore Basic and Enhanced (version 14.0 and above)



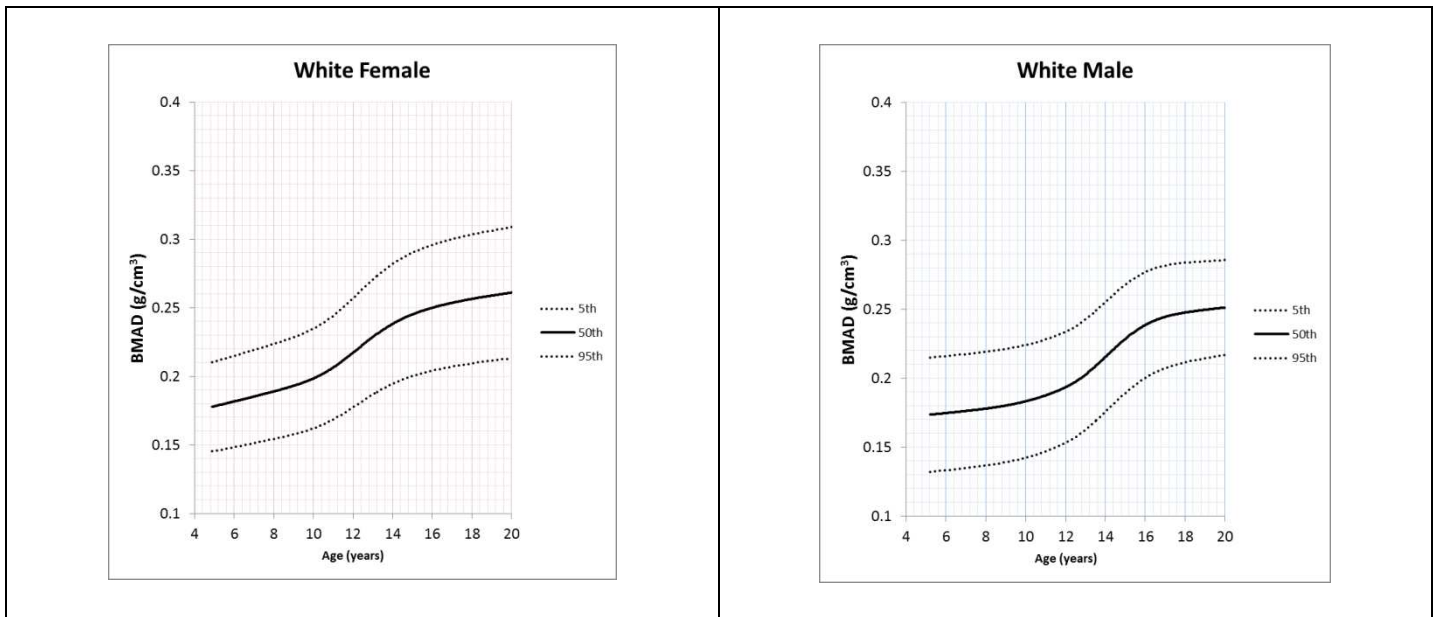
Supplemental Figure 3a Lumbar Spine BMAD LMS Reference Curves for the GE Lunar Prodigy™



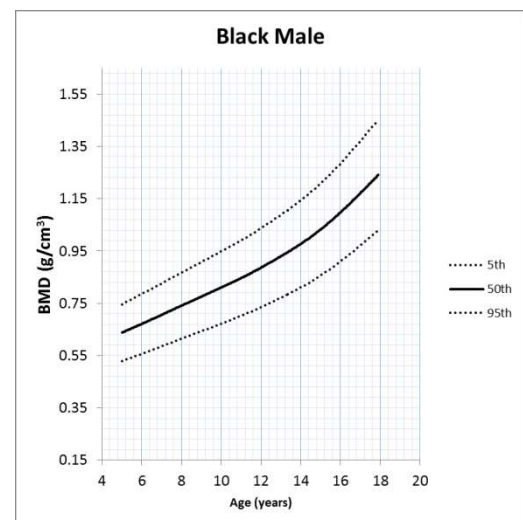
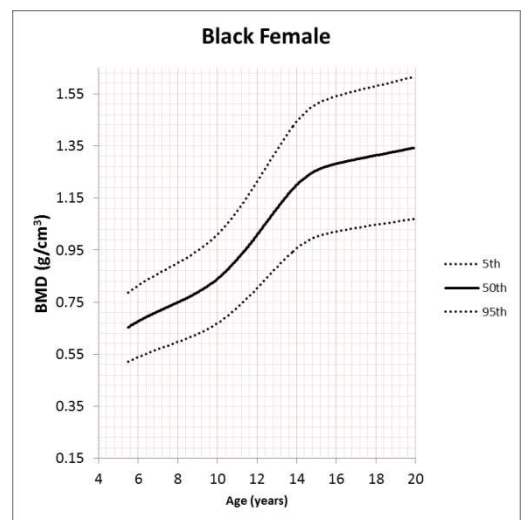
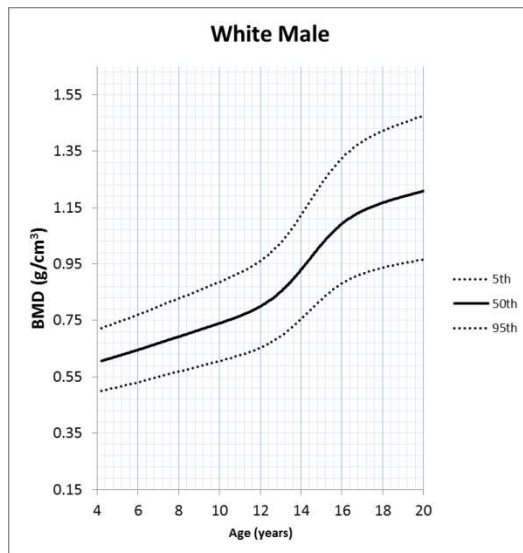
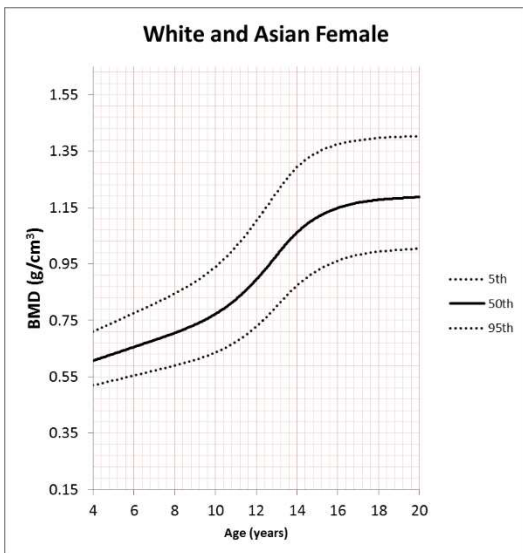
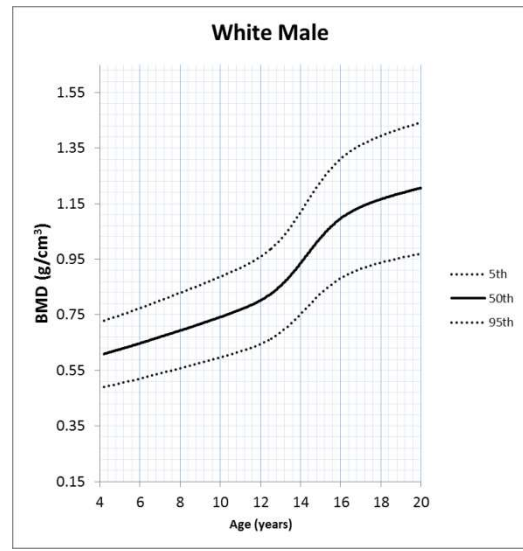
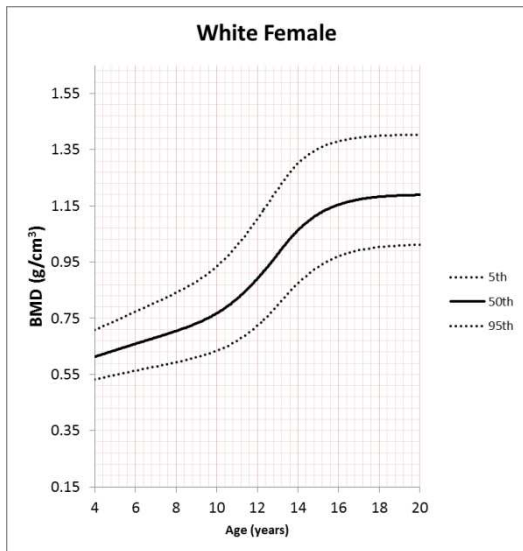
Supplemental Figure 3b Lumbar Spine BMAD LMS Reference Curves for GE Lunar iDXA™



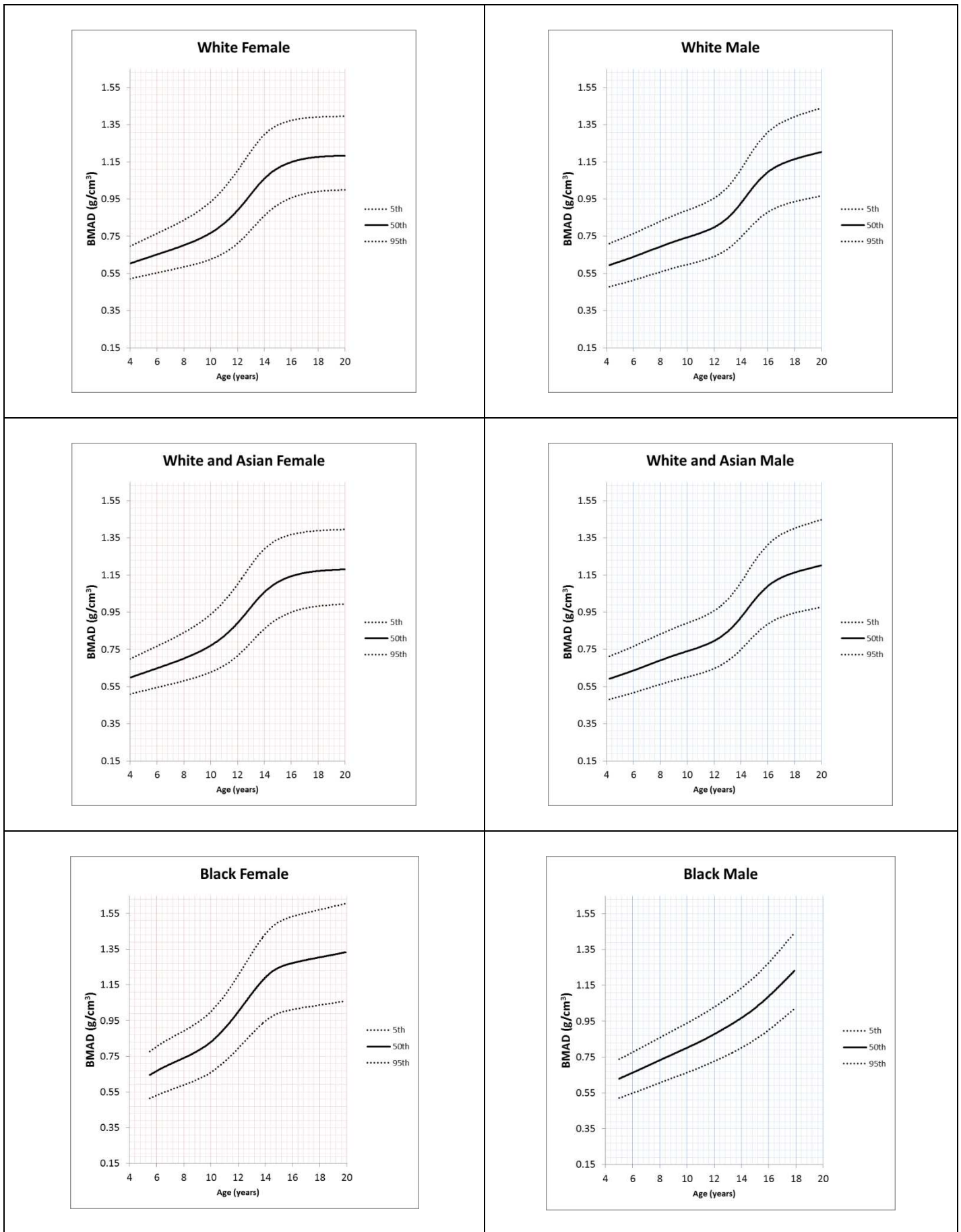
Supplemental Figure 3c Lumbar Spine BMAD LMS Reference Curves for Hologic Discovery



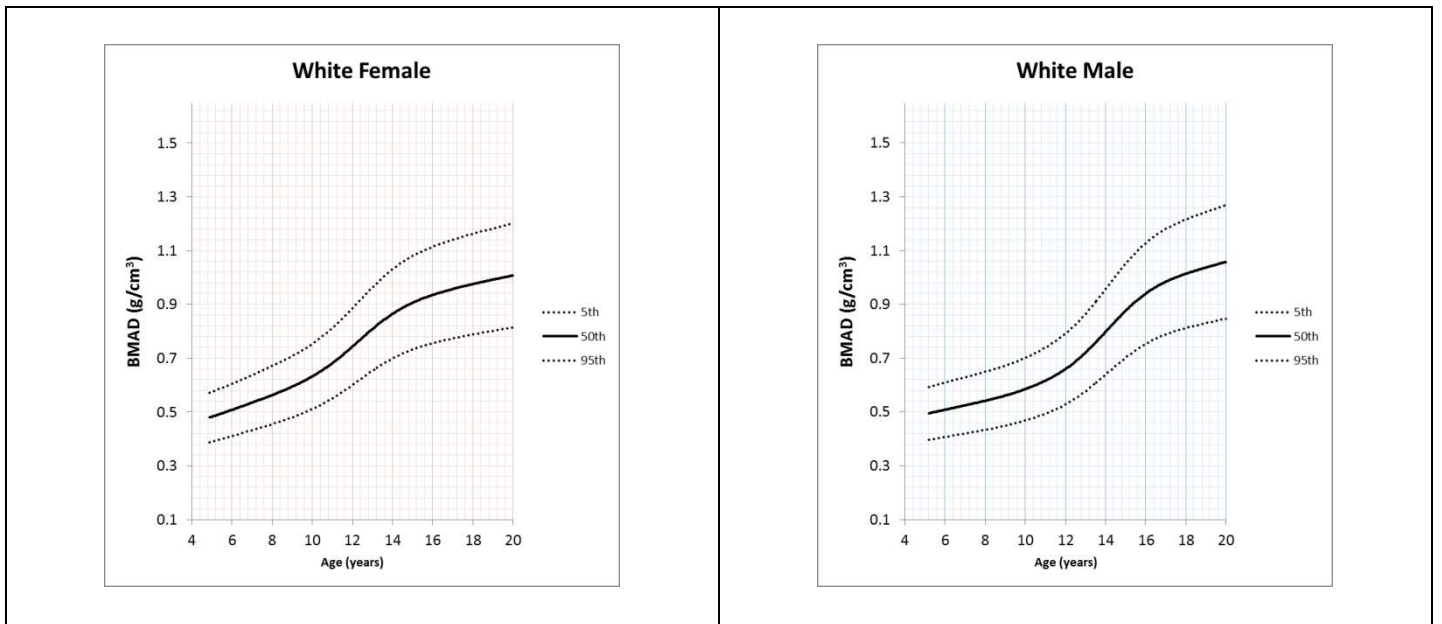
Supplemental Figure 4a Lumbar Spine L1-L4 BMD LMS Reference Curves for the GE Lunar Prodigy™



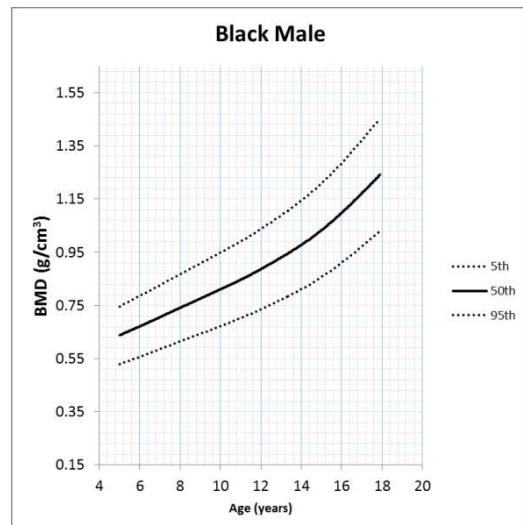
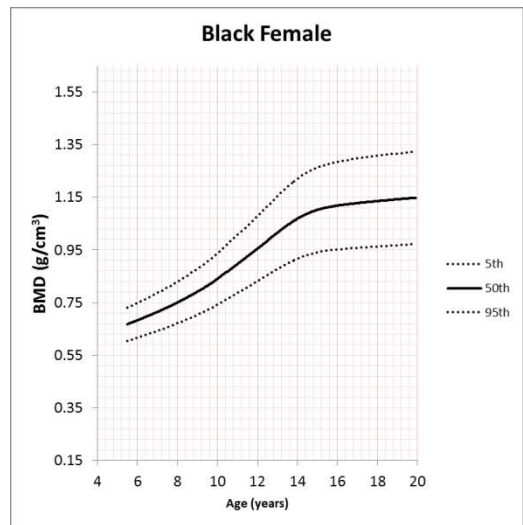
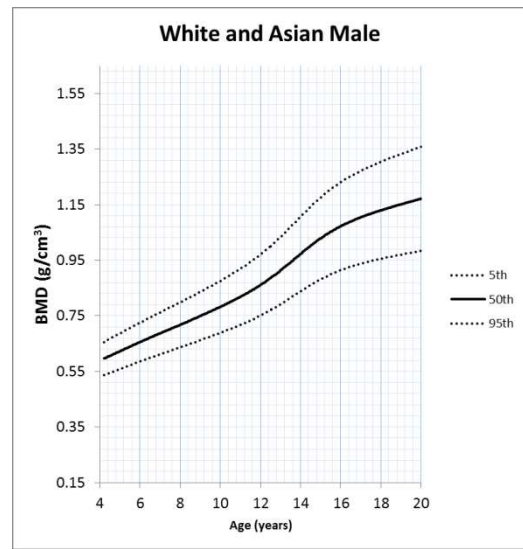
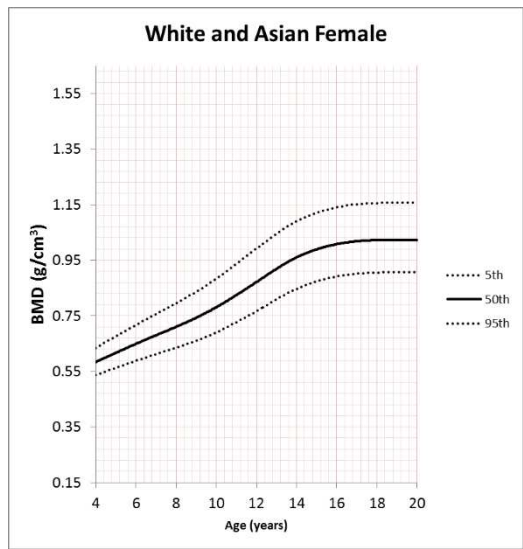
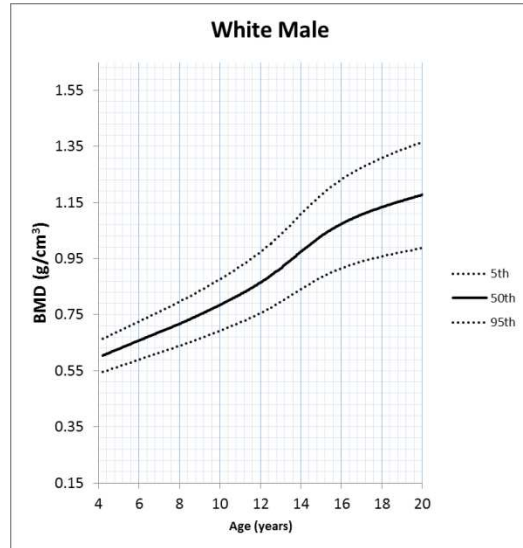
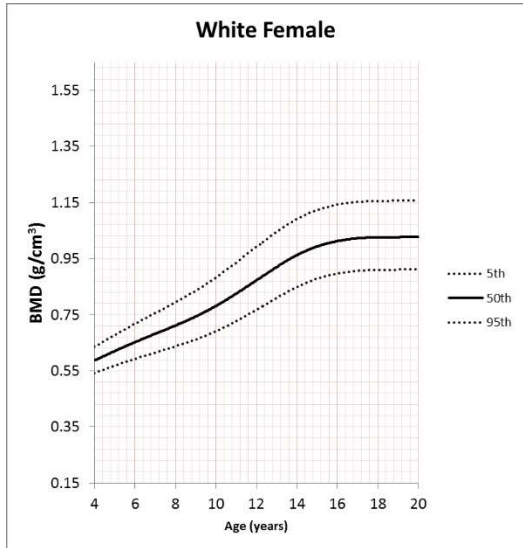
Supplemental Figure 4b Lumbar Spine L1-L4 BMD LMS Reference Curves for GE Lunar iDXA™



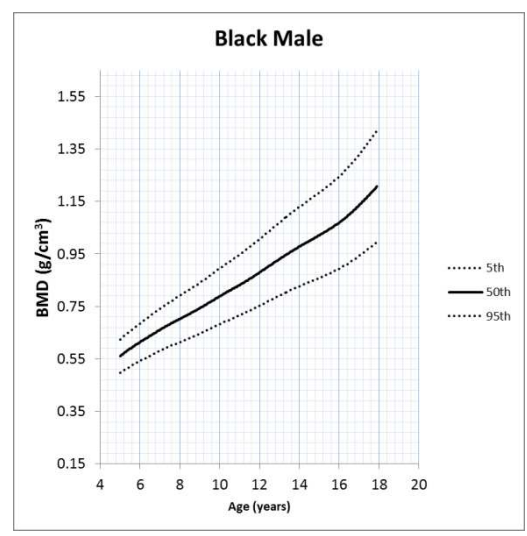
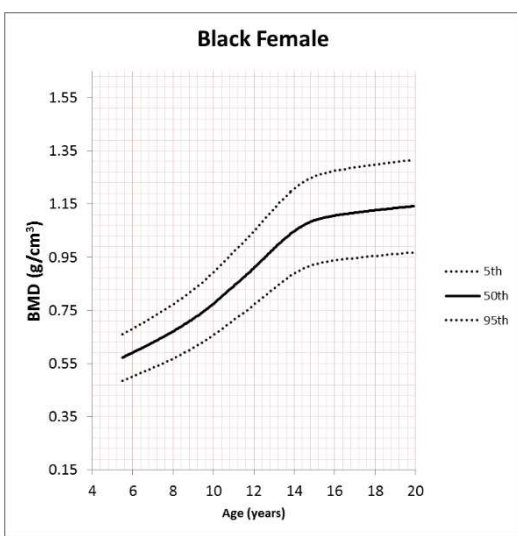
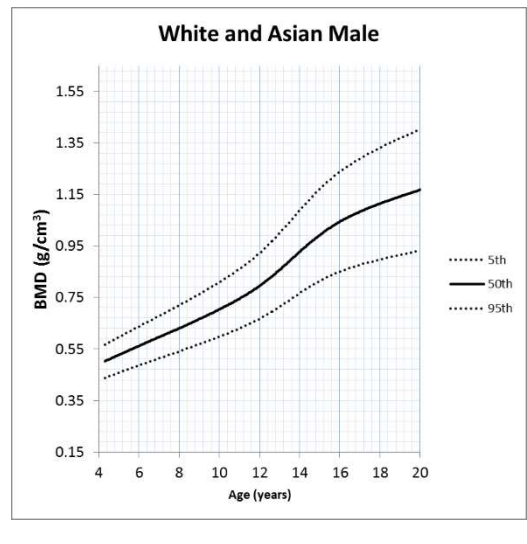
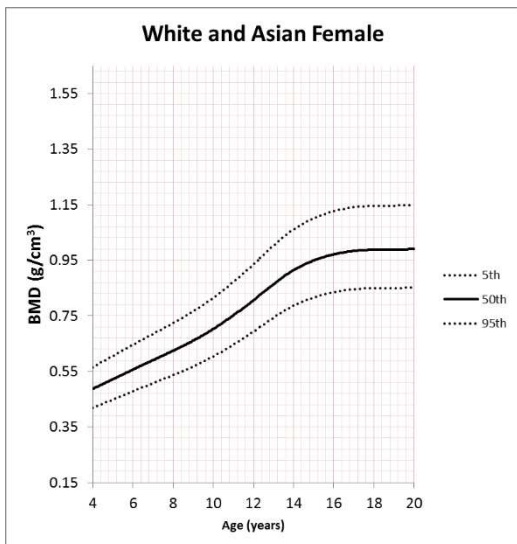
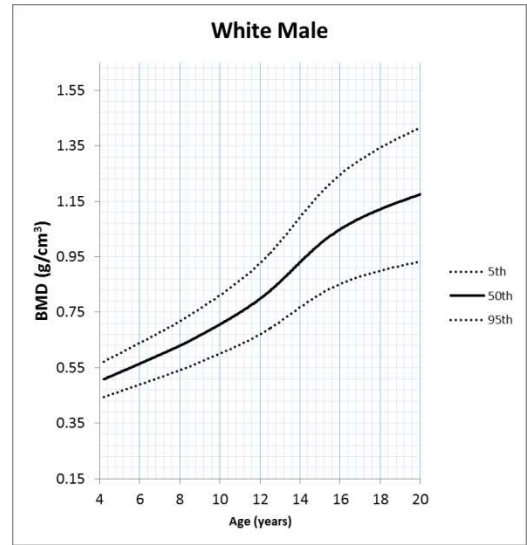
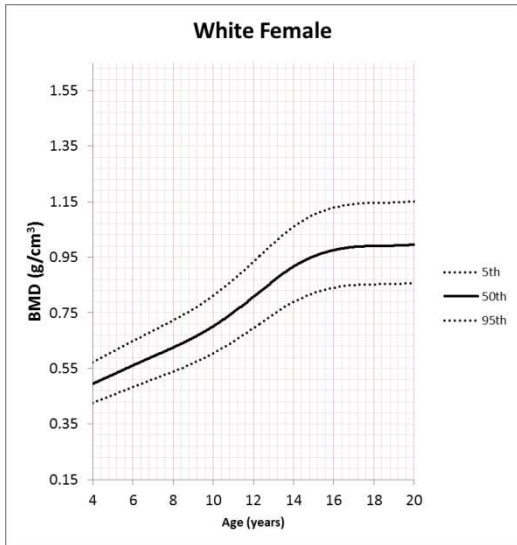
Supplemental Figure 4c Lumbar Spine L1-L4 BMD LMS Reference Curves for Hologic Discovery



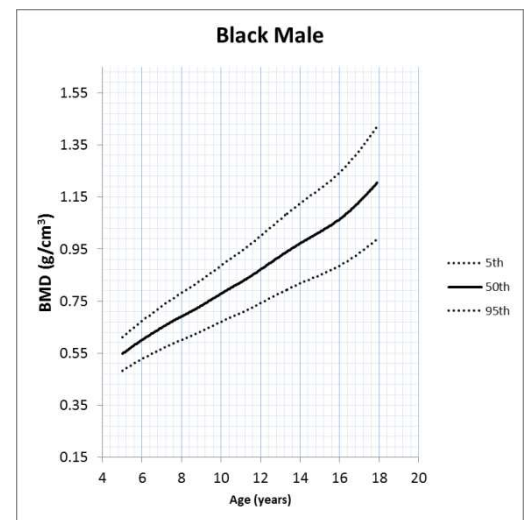
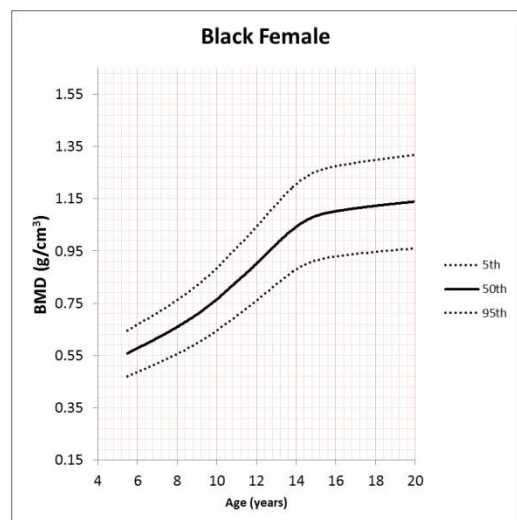
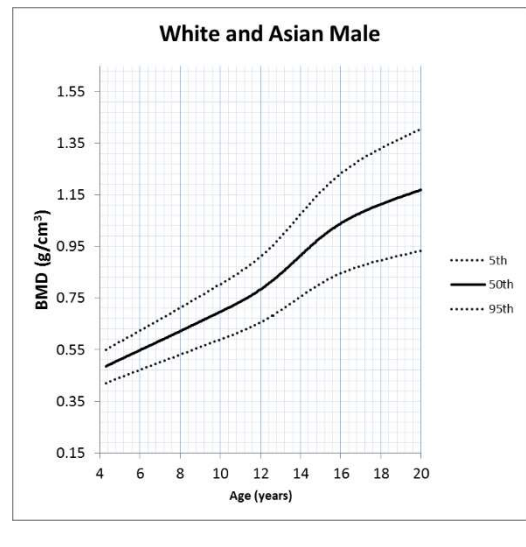
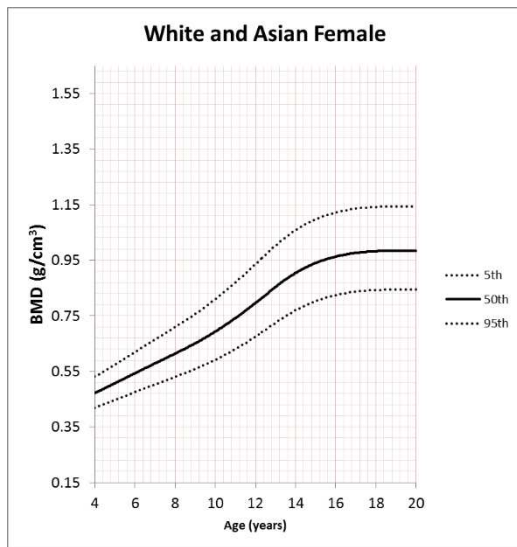
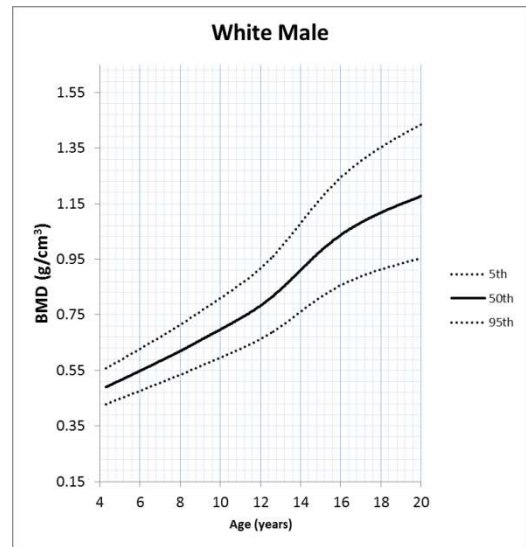
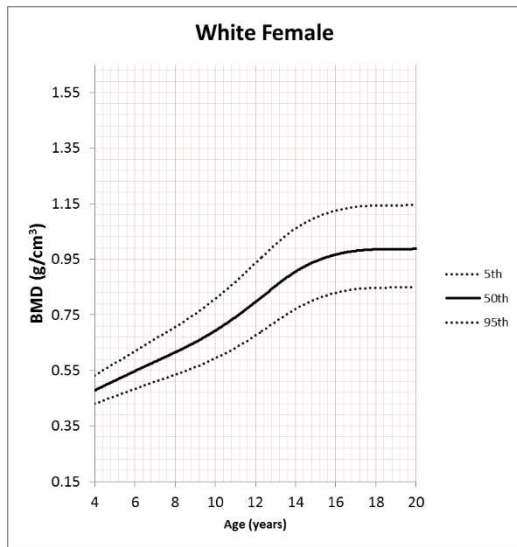
Supplemental Figure 5a Total Body Less Head BMD LMS Reference Curves for the GE Lunar Prodigy™



Supplemental Figure 5b Total Body Less Head BMD LMS Reference Curves for GE Lunar Prodigy™ Enhanced Mode



Supplemental Figure 5c Total Body Less Head BMD LMS Reference Curves for GE Lunar iDXA™



Supplemental Figure 5d Total Body Less Head LMS Reference Curves for Hologic Discovery

