

<p>Body composition by DXA John A. Shepherd, Bennett K. Ng, Markus J. Sommer, Steven B. Heymsfield, Bone. 2017 DOI: https://doi.org/10.1016/j.bone.2017.06.010 *Key Points: This study identified that One full body DXA scan has the equivalent amount of radiation as received over one day at sea level. Summary Card</p>	Nov-17	X		X												X	
<p>Fat-Free Mass Index in NCAA Division I and II Collegiate American Football Players Eric T. Trexler; Abbie E. Smith-Ryan; Malia N.M. Blue; Richard M. Schumacher; Jerry L. Mayhew; J. Bryan Mann; Pat A. Ivey; Katie R. Hirsch; Meredith G. Mock Journal of Strength and Conditioning Research. 31(10):2719–2727, OCT 2017. DOI: 10.1519/JSC.0000000000001737, PMID: 27930454 *Key Points: Outlines the differences in FFMI differences between different playing positions and Highlights the importance & accuracy of DXA assessments in professional athletic setting. Summary Card</p>	Oct-17	X						X									
<p>Short term in vivo precision of whole body composition measurements on the Horizon A densitometer. Michael Nowitz, and Paula Monahan Journal Med Imaging Radiation Oncology. 2017 Jul 29. doi: 10.1111/1754-9485.12646 *Key Points: This study identified Horizon A precision exceeds the minimum acceptable precision value by a factor of four. Summary Card</p>	Jul-17	X	X	X				X								X	
<p>Seasonal Effects on Body Composition, Muscle Characteristics, and Performance of Collegiate Swimmers and Divers. Roelofs EJ, Smith-Ryan AE, Trexler ET, Hirsch KR. J Athl Train. 2016 Dec 1. PMID: 27905858 *Key Point: Body composition and muscle characteristics improved through 1 training season, which may have implications for performance. Quantifying body composition and muscle characteristics may be beneficial for professionals who work with athletes in order to improve performance and prevent injury.</p>	Dec-16	X		X				X									
<p>Menopause Transition and Body Composition in Healthy South Indian Women Deepa Meeta D, Sameena Agarwal S, Akanshi Tanvir A - Journal of Clinical Densitometry, Vol. 19, Issue 4, p536 Published in issue: October 2016 *Key Point: This study was to assess the total body composition of healthy Indian women and to investigate its relationship with age and menopause as independent factors.</p>	Oct-16	X															
<p>Differences in DXA-Derived Lean Tissue Mass and Muscle Quality Between Healthy Young (25-35y) and Older (55-65y) Adults Francis P, Stein S, Butterworth M, Hind K - Journal of Clinical Densitometry, Vol. 19, Issue 4, p531 Pub in issue: October 2016 *Key Point: The aim of this study was to assess age-related differences in upper leg lean tissue mass (LTM), maximal voluntary upper leg strength and muscle quality in healthy young and older adults.</p>	Oct-16	X						X									
<p>A DXA-Based Analysis of Aberrant Body Composition of Patients with Crohn's Disease L. Dowling, M. Skelly, H. Yousuf, D. O'Sullivan, C. Dunne, P. Jakeman - Journal of Clinical Densitometry, Vol. 19, Issue 4, p522 Published in issue: October 2016 *Key Point: The aim of this study was to conduct a discriminate analysis of the body composition of patients with Crohn's Disease (CD) that overcomes the recognised limitations in the use of BMI.</p>	Oct-16	X															

<p>Body Composition by Dual-X-Ray Absorptiometry in Women of Reproductive Age Journal of Clinical Densitometry, Vol. 19, Issue 4, p526–527 - Published in issue: October 2016</p> <p>*Key Point: The assessment of the components of body composition (BC) using dual-x-ray absorptiometry (DXA) represents an important step in evaluating clinical and nutritional disorders.</p>	Oct-16	X															
<p>DXA: Technical aspects and application Bazzocchi A, Ponti F, Albisinni U, Battista G, Guglielmi G - European Journal of Radiology, Volume 85, Issue 8, August 2016, Pages 1481-92</p> <p>*Key Point: The purposes of this review are: (1) to appreciate the role of DXA in the study of body composition; (2) to understand potential limitations and pitfalls of DXA in the analysis of body composition; (3) to learn about technical elements and methods, and to become familiar with biomarkers in DXA.</p>	Aug-16	X	X		X											X	
<p>Muscle analysis using pQCT, DXA and MRI Erlandson MC, Lorbergs AL, Mathur S, Cheung AM - European Journal of Radiology, Vol 85, Issue 8, August 2016, Pg 1505-11</p> <p>*Key Point: A review of peripheral quantitative computed tomography (pQCT), dual X-ray energy absorptiometry (DXA) and magnetic resonance imaging (MRI) techniques used to assess skeletal muscle size and quality in-vivo.</p>	Aug-16	X								X							
<p>Body composition in clinical practice Andreoli A, Garaci F, Cafarelli FP, Guglielmi G - European Journal of Radiology, Vol 85, Issue 8, August 2016, Pg 1461-1468</p> <p>*Key Point: A review of the increasing interest in the study of body composition to monitor conditions and delay in development of obesity-related diseases.</p>	Aug-16	X								X							
<p>Reliability of 2 Different Positioning Protocols for Dual-Energy X-ray Absorptiometry Measurement of Body Composition in Healthy Adults Kerr A, G Slater GL, Byrne N, Nana A - Journal of Clinical Densitometry, Volume 19, Issue 3, July 2016, Pages 282-289</p> <p>*Key Point: Compare the reliability of a new positioning protocol (Nana et al) with the current reference (National Health and Nutrition Examination Survey [NHANES]) protocol and investigate their within-protocol precision.</p>	Jul-16	X															
<p>Quantitative Comparison of 2 Dual-Energy X-ray Absorptiometry Systems in Assessing Body Composition and Bone Mineral Measurements Xu W, Chafi H, Guo B, Heymsfield SB, Murray KB, Zheng J, Jia G - Journal of Clinical Densitometry, Volume 19, Issue 3, July 2016, Pages 298-304</p> <p>*Key Point: The high correlation between the 2 DXA systems with systematic differences enabled development of calibration equations for extending the multisystem measurements to advanced quantitative analyses.</p>	Jul-16	X	X														
<p>Body Composition Analysis Applied to Different Sports Practices: Focus in Perspectives for Research and Clinical Outcomes in Regular, Elite, and Professional High-Performance Athletes Tamayo-Orozco J, Tlatoa-Ramírez H, Velázquez-Verduzco A, Montes-Felisart V - Journal of Clinical Densitometry, online 12 July 2016</p>	Jul-16	X							X								

<p>Novel unilateral analysis of AP lumbar spine bone density in elite cricket fast bowlers Hind K, K Bansil K, Barlow M, Rutherford Z, Lees M - Bone and Body Composition Research Group June 2016 *Key Point: Evaluate lumbar spine bone mass in elite male fast bowlers compared to cricketers of other positions using central dual- energy X-ray absorptiometry (DXA) with novel custom analysis of bilateral regions.</p>	Jun-16	X							X								
<p>Body Composition and Muscle Characteristics of Division I Track and Field Athletes. Hirsch KR, Smith-Ryan AE, Trexler ET, Roelofs EJ - J Strength Cond Res. 2016 May;30(5):1231-8. doi: 10.1519/JSC.0000000000001203. *Key Point: The purpose of this study was to evaluate event-specific body composition and muscle characteristics of track and field athletes and to assess body composition changes after 1 year.</p>	May-16	X							X								
<p>Three-Compartment Body Composition Changes in Professional Rugby Union Players Over One Competitive Season: A Team and Individualized Approach Lees MJ, Oldroyd B, Jones B, Brightmore A, O'Hara JP, Barlow MJ, Till K, Hind K. - J Clin Densitom. 2016 May 5. pii: S1094-6950(16)30048-8. doi: 10.1016/j.jocd.2016.04.010 *Key Point: This study highlights the advantages of an individualized approach to dual-energy X-ray absorptiometry body composition monitoring and this can be achieved through application of derived LSC</p>	May-16	X					X										
<p>Assessment of Fat distribution and Bone quality with Trabecular Bone Score (TBS) in Healthy Chinese Men Shan Lv, Aisen Zhang, Wenjuan Di, Yunlu Sheng, Peng Cheng, Hanmei Qi, Juan Liu, Jing Yu, Guoxian Ding, Jinmei Cai, and Bin Lai, Sci Rep. 2016; 6: 24935. doi: 10.1038/srep24935</p>	Apr-16	X			X						X						
<p>Seasonal Changes in Whole Body and Regional Body Composition Profiles of Elite Collegiate Ice-Hockey Players. Prokop NW, Reid RE, Andersen RE - J Strength Cond Res. 2016 Mar;30(3):684-92. doi: 10.1519/JSC.0000000000001133. PMID: 26907839 *Key Point: The purpose of the study was to investigate changes in whole-body and regional-body composition of fat and lean tissue. The body composition profiles of 19 elite Canadian collegiate hockey players were assessed using dual energy X-ray absorptiometry.</p>	Mar-16	X		X			X		X								
<p>Detecting meaningful body composition changes in athletes using dual-energy x-ray absorptiometry. Colyer SL, Roberts SP, Robinson JB, Thompson D, Stokes KA, Bilzon JL, Salo AI - Physiol Meas. 2016 Apr;37(4):596-609. doi: 10.1088/0967-3334/37/4/596. Epub 2016 Mar 30. *Key Point: DXA was able to detect real body composition changes without the use of stringent scanning controls. Associations between changes in body composition and performance demonstrated the potential influence of these changes on strength and power indices.</p>	Mar-16	X							X								
<p>Comparison of Adipose Distribution Indices with Gold Standard Body Composition Assessments in the EMPAREG H2H SU Trial: A Body Composition SubStudy Ian J. Neeland, Darren K. McGuire, Björn Eliasson, Martin Ridderstråle, Cordula Zeller, Hans J. Woerle, Uli C. Broedl, and Odd Erik Johansen Diabetes Ther. 2015 Dec; 6(4): 635–642. doi: 10.1007/s1330001501467</p>	Nov-15	X		X							X						

<p>Body composition analysis of inter-county Gaelic athletic associations players measured by dual energy X-ray absorptiometry.</p> <p>Davies RW, Toomey C, McCormack W, Hughes K, Cremona A, Jakeman P - J Sports Sci. 2016;34(11):1015-20. doi: 10.1080/02640414.2015.1085076.</p> <p>*Key Point: Stature and body mass was measured, estimates of three components of body composition, i.e., lean mass, fat mass and bone mineral content was obtained by dual energy X-ray absorptiometry (DXA), and normative data for Gaelic athletic association athletes.</p>	Sep-15	X		X													
<p>Changes in body composition in Divison I Football Players over a competitive season and recovery in off-season</p> <p>Binkley T, Daughters SW, Weidauer LA, Vukovich MD - J Strength Cond Res. 2015 Sep;29(9):2503-12. doi: 10.1519/JSC.0000000000000886.</p> <p>*Key Point: In this study, body composition in the younger linemen had unfavorable changes at postseason, although these younger linemen had no significant change in weight. Results from this study could be used to support the implementation of a “training table” program for the athletic department lead by a dietician so that nutritional education programs could be initiated.</p>	Sep-15	X		X				X									
<p>Do Canadian collegiate hockey players accurately perceive body composition changes after unmonitored training and diet?</p> <p>Prokop NW, Duncan LR, Andersen RE,. Appl Physiol Nutr Metab. 2015 Oct;40(10):1056-60. doi: 10.1139/apnm-2015-0114. Epub 2015 Jul 6.</p> <p>*Key Point: Collegiate athletes often use nutritional programs and supplements to elicit body composition changes in muscle or fat. It is unknown if athletes can accurately perceive their fluctuations in body composition, yet their understanding may help them make more accurate interpretations regarding the success of potential nutrition or exercise regimens.</p>	Jul-15	X		X				X									
<p>Multi-Component Molecular-Level Body Composition Reference Methods: Evolving Concepts and Future Directions</p> <p>Steven B. Heymsfield, Cara B. Ebbeling, Jolene Zheng, Angelo Pietrobelli, Boyd J. Strauss, Analiza M. Silva, and David S. Ludwig Obes Rev. 2015 April ; 16(4): 282–294. doi:10.1111/obr.12261</p>	Apr-15	X		X				X									
<p>Methodology review: using dual-energy X-ray absorptiometry (DXA) for the assessment of body composition in athletes and active people.</p> <p>Nana A, Slater GJ, Stewart AD, Burke LM - Int J Sport Nutr Exerc Metab. 2015 Apr;25(2):198-215. doi: 10.1123/ijsnem.2013-0228. Epub 2014 Jul 14</p> <p>*Key Point: This review presents a summary of the sources of error and variability in the measurement of body composition by DXA, and develops a theoretical model of best practice to standardize the conduct and analysis of a DXA scan.</p>	Apr-15	X															
<p>Concordance between muscle mass assessed by bioelectrical impedance analysis and by dual energy X-ray absorptiometry: a cross-sectional study</p> <p>Fanny Buckinx, Jean-Yves Reginster, Nadia Dardenne, Jean-Louis Croisier, Jean-François Kaux, Charlotte Beudart, Justine Slomian and Olivier Bruyère Buckinx et al. BMC Musculoskeletal Disorders (2015) 16:60 DOI 10.1186/s12891-015-0510-9</p>	Mar-15	X														X	

<p>The Official Positions of the International Society for Clinical Densitometry: Body Composition Analysis Reporting Petak S, Barbu CG, Yu EW, Fielding R, Mulligan K, Sabowitz B, Wu CH, Shepherd JA - Journal of Clinical Densitometry, Volume 16, Issue 4, October–December 2013, Pages 508-519 *Key Point: These guidelines provide evidence-based standards for the reporting and clinical application of DXA-based measures of body composition.</p>	Oct-13	X															
<p>The usefulness of densitometry as a method of assessing the nutritional status of athletes. Comparison with body mass index. Infante JR, Reyes C, Ramos M, Rayo JI, Lorente R, Serrano J, Domínguez ML, García L, Durán C, Sánchez R - Revista Española de Medicina Nuclear e Imagen Molecular (English Edition), Volume 32, Issue 5, September–October 2013, Pages 281-285 *Key Point: Although BMI is an appropriate parameter in general population for the assessment of nutritional status, in athletes should be taken into account fat and muscle body percentage and their corresponding indexes. The whole body densitometry appears to be a simple and reliable technique for this purpose.</p>	Sep-13	X	X	X													
<p>Body composition changes by DXA, BIA and skinfolds during exercise training in women. Sillanpää E, Häkkinen A, Häkkinen K. - Eur J Appl Physiol. 2013 Sep;113(9):2331-41. doi: 10.1007/s00421-013-2669-9. Epub 2013 Jun 8. *Key Point: Accuracy of bioimpedance (BIA) and skinfold thickness in estimating body composition among 39-64 year-old women was investigated using dual-energy X-ray absorptiometry (DXA) as a criterion method both cross-sectionally and during a training intervention.</p>	Sep-13	X															
<p>Total and Regional Body Volumes Derived From Dual-Energy X-Ray Absorptiometry Output Joseph P. Wilson, Bo Fan, and John A. Shepherd Journal of Clinical Densitometry: Assessment & Management of Musculoskeletal Health, vol. 16, no. 3, 368e373, 2013 http://dx.doi.org/10.1016/j.jocd.2012.11.001</p>	Jul-13	X													X		
<p>Clinical Observations in Total Body DXA: Technical Aspects of Positioning and Analysis Libber J, Binkley N, Krueger D - Journal of Clinical Densitometry, Volume 15, Issue 3, July–September 2012, Pages 282-289 *Key Point: This report describes technical challenges experienced in performing TB DXA, explores the frequency with which autoanalysis inaccuracies occur, assesses their effect on regional body composition results, and describes a uniform clinical approach for TB DXA positioning and analysis.</p>	Jul-12	X															
<p>DXA Use in Athletes: Exploration of Regional Lean Mass Distribution and Correlation with Performance: Recipient of Young Investigator Award Donnenwerth J, Heiderschiet B, Libber J, Fidler E, Krueger D, Binkley N - Journal of Clinical Densitometry, Volume 14, Issue 2, April 2011, Page 154 *Key Point: The purpose of this report is to characterize DXA-measured lean mass regional distribution in Division 1 college student-athletes and to evaluate the correlation of lean mass with athletic performance as measured by jumping mechanography.</p>	Apr-11	X		X				X									

<p>Sarcopenia: European consensus on definition and diagnosis: Report of the European Working Group on Sarcopenia in Older People Alfonso J. Cruz-Jentoft, Jean Pierre Baeyens, Jürgen M. Bauer, Yves Boirie, Tommy Cederholm, Francesco Landi, Finbarr C. Martin, Jean-Pierre Michel, Yves Rolland, Stéphane M. Schneider, Eva Topinková, Maurits Vandewoude, Mauro Zamboni Age Ageing. 2010 Jul;39(4):412-23. doi: 10.1093/ageing/afq034. Epub 2010 Apr 13.</p>	Apr-10	X						X									
<p>PSA and body composition by dual X-ray absorptiometry (DXA) in NHANES. Jay H. Fowke and Charles E. Matthews. Prostate. 2010 Feb 1;70(2):120-5. doi: 10.1002/pros.21039</p>	Feb-10	X							X								
<p>Body Composition in Athletes: Assessment and Estimated Fatness Malina RA - Clinics in Sports Medicine, Volume 26, Issue 1, January 2007, Pages 37-68 *Key Point: Provides an overview of models and methods used for studying body composition, changes in body composition during adolescence and the transition into adulthood, and applications to adolescent and young adult athletes.</p>	Jan-07	X	X	X													
<p>Modeling elite male athletes' peripheral bone mass, assessed using regional dual x-ray absorptiometry Nevill AM, R.L. Holder, A.D. Stewart - Bone, Volume 32, Issue 1, January 2003, Pages 62-68 *Key Point: The results from this study suggest that the bone mass acquisition of elite athletes' arms and legs increases in proportion to the projected bone area, having simultaneously controlled/removed the effect of the confounding variables of body mass and body fat.</p>	Jan-03	X	X	X													

MED-00317 REV 001 (04/18) US/International © 2018 Hologic, Inc. All rights reserved. Printed in USA. Specifications are subject to change without prior notice. Hologic, Horizon, The Science of Sure and associated logos are trademarks and/or registered trademarks of Hologic, Inc., and/or its subsidiaries in the United States and/or other countries. All other trademarks, registered trademarks, and product names are the property of their respective owners. Views and opinions expressed herein by third parties are theirs alone and do not necessarily reflect those of Hologic. This information is intended for medical professionals in the U.S. and other markets and is not intended as a product solicitation or promotion where such activities are prohibited. Rx only - use of the Hologic DXA System is restricted by or on the order of a physician. Because Hologic materials are distributed through websites, eBroadcasts and tradeshows, it is not always possible to control where such materials appear. For specific information on what products are available for sale in a particular country, please contact your local Hologic representative or write to: womenshealth@hologic.com.