B”SD

**Jesse Krakauer MD, FACP**

**248-795-0462****jckrakauer@gmail.com**

1. **Corewell Health Wm Beaumont University Hospital**
2. **Royal Oak, MI 48073**

**Nir Y Krakauer, PhD**

**Department of Civil Engineering**

**The City College of New York**

**New York, NY 10031**

**nkrakauer@ccny.cuny.edu**

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**ABSI and:**

**GI/Hepatobiliaryjump, GUjump, Inflammation****jump, Pulmonaryjump, Renaljump, OB/Gynjump, Ortho/Osteoporosisjump, Neuro-Psychjump,Thyroidjump, Uric Acidjump and Othersjump**

**ABSI references:**[**https://drjessekrakauer.com/absi.html**](https://drjessekrakauer.com/absi.html)

**https://en.wikipedia.org/wiki/Body\_shape\_index**

**ABSI = WC weight-2/3height5/6 = WC/(BMI2/3height1/2)**

**GI/Hepatobiliaryjump**

**Eom BW, Joo J, Yoon HM, Ryu KW, Kim YW, Lee JH. A body shape index has a good correlation with postoperative complications in gastric cancer surgery. Ann Surg Oncol. 2014 Apr;21(4):1115-22. doi: 10.1245/s10434-013-3409-4. Epub 2013 Dec 4. PMID: 24306666.**

**Motamed N, Rabiee B, Hemasi GR, Ajdarkosh H, Khonsari MR, Maadi M, Keyvani H, Zamani F. Body Roundness Index and Waist-to-Height Ratio are Strongly Associated With Non-Alcoholic Fatty Liver Disease: A Population-Based Study. Hepat Mon. 2016 Aug 14;16(9):e39575. doi: 10.5812/hepatmon.39575. PMID: 27822266; PMCID: PMC5091031.(Table 3)**

**Chen S, Guo X, Yu S, Zhou Y, Li Z, Sun Y. Anthropometric Indices in Adults: Which Is the Best Indicator to Identify Alanine Aminotransferase Levels? Int J Environ Res Public Health. 2016 Feb 18;13(2):226. doi: 10.3390/ijerph13020226. PMID: 26901214; PMCID: PMC4772246. (ABSI men = women sic)**

**Ratti F, D'Alessandro V, Cipriani F, Giannone F, Catena M, Aldrighetti L. Influence of body habitus on feasibility and outcome of laparoscopic liver resections: a prospective study. J Hepatobiliary Pancreat Sci. 2016 Jun;23(6):373-81. doi: 10.1002/jhbp.350. Epub 2016 May 3. PMID: 27037539.**

**Park JK, Lim Y, Lee H, Kim TJ, Choi YH, Min YW, Min BH, Lee JH, Rhee PL, Kim JJ. Comparison of anthropometric measurements associated with the risk of endoscopic erosive esophagitis: A cross-sectional study. Obes Res Clin Pract. 2017 Nov-Dec;11(6):694-702. doi: 10.1016/j.orcp.2017.04.005. Epub 2017 Apr 25. PMID: 28455224.**

**Wang H, Zhang Y, Liu Y, Li H, Xu R, Fu H, Yan C, Qu B. Comparison between traditional and new obesity measurement index for screening metabolic associated fatty liver disease. Front Endocrinol (Lausanne). 2023 Apr 21;14:1163682. doi: 10.3389/fendo.2023.1163682. PMID: 37152940; PMCID: PMC10160459.**

# Santos CML, Brito MD, Castro PASV, Vries TP, Viana NL, Coelho MPP, Malheiro OB, Bering T, Gonzalez MC, Teixeira R, Cambraia RD, Rocha GA, Silva LD. Metabolic-associated fatty liver disease is associated with low muscle mass and strength in patients with chronic hepatitis B. World J Hepatol 2022; 14(8): 1652-1666 [DOI: [10.4254/wjh.v14.i8.1652](https://dx.doi.org/10.4254/wjh.v14.i8.1652)] (High ABSI and FattyLD remained positively and independently associated with low HGS in the univariate analysis)

**Boncan DAT, Yu Y, Zhang M, Lian J, Vardhanabhuti V. Machine learning prediction of hepatic steatosis using body composition parameters: A UK Biobank Study. NPJ Aging. 2024 Jan 9;10(1):4. doi: 10.1038/s41514-023-00127-z. PMID: 38195699; PMCID: PMC10776620. Has HI – protective!**

**Mansour A, Pourhassan S, Gerami H, Mohajeri-Tehrani MR, Salahshour M, Abbasi A, Madreseh E, Sajjadi-Jazi SM. Regional fat distribution and hepatic fibrosis and steatosis severity in patients with nonalcoholic fatty liver disease and type 2 diabetes. Obes Sci Pract. 2024 Jul 1;10(4):e777. doi: 10.1002/osp4.777. PMID: 38957476; PMCID: PMC11215980.**

**Zhu Y, Huang Y, Sun H, Chen L, Yu H, Shi L, Xia W, Sun X, Yang Y, Huang H. Novel anthropometric indicators of visceral obesity predict the severity of hyperlipidemic acute pancreatitis. Lipids Health Dis. 2024 Apr 23;23(1):120. doi: 10.1186/s12944-024-02112-1. PMID: 38654370. Absi low associations**

**Zhang J, Liang D, Xu L, Liu Y, Jiang S, Han X, Wu H, Jiang Y. Associations between novel anthropometric indices and the prevalence of gallstones among 6,848 adults: a cross-sectional study. Front Nutr. 2024 Jul 22;11:1428488. doi: 10.3389/fnut.2024.1428488. PMID: 39104753; PMCID: PMC11298442. – ABSI not associated**

# Ichikawa T, Hashimoto Y, Okamura T, Obora A, Kojima T, Okada H, Hamaguchi M, Fukui M. Relationship between anthropometric measures and the risk of incident Metabolic dysfunction-associated steatotic liver disease: a longitudinal study. BMC Gastroenterol. 2025 Mar 26;25(1):202. doi: 10.1186/s12876-025-03780-8. PMID: 40140744; PMCID: PMC11948872.

# <https://doi.org/10.1186/s12876-025-03780-8>

# Yeo YH, Zhu Y, Gao J, Liu S, Ni W, Rui F, Bai X, Geng N, Jin R, Speliotes EK, Wu C, Shi J, Qi X, Chen VL, Newsome PN, Li J. Anthropometric Measures and Mortality Risk in Individuals With Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD): A Population-Based Cohort Study. Aliment Pharmacol Ther. 2025 May 14. doi: 10.1111/apt.70174. Epub ahead of print. PMID: 40366297.

**Liu D, Lv X, Li W, Dai H, Tan Y, Yang D and Zhang X (2025) Association between estimated glucose disposal rate and metabolic dysfunction-associated steatotic liver disease and dyslipidemia in US adults: a cross-sectional study. *Front. Nutr*. 12:1621074. doi: 10.3389/fnut.2025.1621074**

**Cansanção K, Silva Monteiro L, Carvalho Leite N, Dávalos A, Tavares do Carmo MDG, Arantes Ferreira Peres W. Advanced Liver Fibrosis Is Independently Associated with Palmitic Acid and Insulin Levels in Patients with Non-Alcoholic Fatty Liver Disease. Nutrients. 2018 Oct 29;10(11):1586. doi: 10.3390/nu10111586. PMID: 30380656; PMCID: PMC6266910. (absi ns)**

**Davis TME, Peters KE, Chubb SAP, Adams LA, Jeffrey GP, Davis WA. Changes in the Epidemiology of Hepatobiliary Disease Complicating Type 2 Diabetes over 25 Years: The Fremantle Diabetes Study. J Clin Med. 2020 Oct 24;9(11):3409. doi: 10.3390/jcm9113409. PMID: 33114323; PMCID: PMC7690874. (table 5)**

**Zhang Y, Li B, Liu N, Wang P, He J. Evaluation of Different Anthropometric Indicators for Screening for Nonalcoholic Fatty Liver Disease in Elderly Individuals. Int J Endocrinol. 2021 Jan 27;2021:6678755. doi: 10.1155/2021/6678755. PMID: 33574841; PMCID: PMC7861948. (nil for absi?)**

**Chen S, Zhang J, Niu Y and Li Y (2025) Independent role of two novel abdominal fat indicators in chronic diarrhoea. *Front. Med*. 12:1593571. doi: 10.3389/fmed.2025.1593571**

**GUjump**

 **Lin W, Lin ME. Novel anthropometric measures are positively associated with erectile dysfunction: a cross-sectional study. Int Urol Nephrol. 2024 Mar;56(3):855-865. doi: 10.1007/s11255-023-03840-6. Epub 2023 Oct 16. PMID: 37843775.**

**Kölükçü E, Yalçın K, Fırat F. Can a High Body Shape Index (ABSI) Be a Risk Factor for Peyronie’s Disease?. J Urol Surg. 2024 Sep;11(3):134-139. doi:10.4274/jus.galenos.2024.2024-4-10. published in İstanbul, Turkiye**

**Chang, K., Li, B., Wang, G. *et al.* Association between Chinese visceral adiposity index and lower urinary tract symptoms suggestive of benign prostatic hyperplasia (LUTS/BPH): a national cohort study. *BMC Urol* 25, 15 (2025).** [**https://doi.org/10.1186/s12894-025-01698-7**](https://doi.org/10.1186/s12894-025-01698-7) **ABSI OR peaks and then falls at 0.8?**

**Xu N, Zou H, Xu H, Chen Y, Wen Q, Xing X, Wu S. Association between five novel anthropometric indices and erectile dysfunction in US adults from NHANES database. Sci Rep. 2025 Jan 10;15(1):1625. doi: 10.1038/s41598-024-80878-1. PMID: 39794403; PMCID: PMC11723986.**

**Guo W, Zhao S, Chang Q, Sun J, Fan Y, Liu J. Negative association between 15 obesity- and lipid-related indices and testosterone in adult males: a population based cross-sectional study. Lipids Health Dis. 2025 Jan 25;24(1):24. doi: 10.1186/s12944-025-02436-6. PMID: 39863911; PMCID: PMC11762110.**

**Li T, Chen J, He B, Feng Q. Obesity-Related Anthropometric Indicators and Erectile Dysfunction: A Systematic Review. Arch Sex Behav. 2025 Aug 4. doi: 10.1007/s10508-025-03208-0. Epub ahead of print. PMID: 40760403.**

**Feng Gao, Chunhua Deng, Peng Luo. The Association Between a Body Shape Index and Testosterone Among U.S. Adult Males: National Health and Nutrition Examination Survey (2011–2016). *Int. J. Vitam. Nutr. Res.* 2025, 95(4), 26559. https://doi.org/10.31083/IJVNR26559 (registering DOI) needs ARI**

**Inflammationjump**

**Christakoudi S, Riboli E, Evangelou E, Tsilidis KK. Associations of body shape index (ABSI) and hip index with liver, metabolic, and inflammatory biomarkers in the UK Biobank cohort. Sci Rep. 2022 May 25;12(1):8812. doi: 10.1038/s41598-022-12284-4. PMID: 35614088; PMCID: PMC9133113.** [**https://doi.org/10.1038/s41598-022-12284-4**](https://doi.org/10.1038/s41598-022-12284-4)

# Lee MR, Jung SM. Serum Folate Related to Five Measurements of Obesity and High-Sensitivity C-Reactive Protein in Korean Adults. Nutrients. 2022 Aug 24;14(17):3461. doi: 10.3390/nu14173461. PMID: 36079719; PMCID: PMC9459859. “folate level showed a significant inverse association with obesity and inflammatory biomarkers, especially in the middle-aged group”

**Clark DO, Unroe KT, Xu H, Keith NR, Callahan CM, Tu W. Sex and Race Differences in the Relationship between Obesity and C-Reactive Protein. Ethn Dis. 2016 Apr 21;26(2):197-204. doi: 10.18865/ed.26.2.197**

**Christakoudi S, Tsilidis KK, Evangelou E, Riboli E. Sex differences in the associations of body size and body shape with platelets in the UK Biobank cohort. Biol Sex Differ. 2023 Feb 22;14(1):12. doi: 10.1186/s13293-023-00494-y. PMID: 36814334; PMCID: PMC9945692.**

**Mirzababaei A, Abaj F, Khosravinia D, Ghorbani M, Valisoltani N, Clark CCT, Radmehr M, Mirzaei K. The mediatory effect of inflammatory markers on the association between a body shape index and body roundness index with cardiometabolic risk factor in overweight and obese women: a cross-sectional study. Front Nutr. 2023 Jun 9;10:1178829. doi: 10.3389/fnut.2023.1178829. PMID: 37360300; PMCID: PMC10288880.**

# Lee M-R, Jung SM. Serum Folate Related to Five Measurements of Obesity and High-Sensitivity C-Reactive Protein in Korean Adults. Nutrients. 2022; 14(17):3461 “folate level showed a significant inverse association with obesity and inflammatory biomarkers, especially in the middle-aged group”

**Clark DO, Unroe KT, Xu H, Keith NR, Callahan CM, Tu W. Sex and Race Differences in the Relationship between Obesity and C-Reactive Protein. Ethn Dis. 2016 Apr 21;26(2):197-204. doi: 10.18865/ed.26.2.197**

**Tylutka A, Morawin B, Walas Ł, Zembron-Lacny A. Does excess body weight accelerate immune aging? Exp Gerontol. 2024 Feb 15;187:112377. doi: 10.1016/j.exger.2024.112377. Epub ahead of print. PMID: 38346543**

**González-Gil EM, Peruchet-Noray L, Sedlmeier AM, Christakoudi S, Biessy C, Navionis AS, Mahamat-Saleh Y, Jaafar RF, Baurecht H, Guevara M, Etxezarreta PA, Verschuren WMM, Boer JMA, Olsen A, Tjønneland A, Simeon V, Castro-Espin C, Aune D, Heath AK, Gunter M, Colorado-Yohar SM, Zilhão NR, Dahm CC, Llanaj E, Schulze MB, Petrova D, Sieri S, Ricceri F, Masala G, Key T, Viallon V, Rinaldi S, Freisling H, Dossus L. Association of body shape phenotypes and body fat distribution indexes with inflammatory biomarkers in the European Prospective Investigation into Cancer and Nutrition (EPIC) and UK Biobank. BMC Med. 2024 Aug 15;22(1):334. doi: 10.1186/s12916-024-03544-3. PMID: 39148045; PMCID: PMC11328449.**

**Lee TL, Hsuan CF, Hsu CC, Wei CT, Wang CP, Lu YC, Tang WH, Lu NH, Chung FM, Lee YJ, Tsai IT. Associations of circulating total p-cresylsulfate and indoxyl sulfate concentrations with central obesity in patients with stable coronary artery disease: sex-specific insights. Int J Obes (Lond). 2024 Sep 5. doi: 10.1038/s41366-024-01624-1. Epub ahead of print. PMID: 39237758. ABSI and gut microbiota**

**Gu X, Luo S, Sun J, Jin F, Chen Z, Song J. Association between "a body shape index" (ABSI) with periodontitis in a hypertension population from the NHANES 2009-2014. Sci Rep. 2024 Oct 8;14(1):23378. doi: 10.1038/s41598-024-73998-1. PMID: 39379534; PMCID: PMC11461872.**

**González-Gil EM, Peruchet-Noray L, Sedlmeier AM, Christakoudi S, Biessy C, Navionis AS, Mahamat-Saleh Y, Jaafar RF, Baurecht H, Guevara M, Etxezarreta PA, Verschuren WMM, Boer JMA, Olsen A, Tjønneland A, Simeon V, Castro-Espin C, Aune D, Heath AK, Gunter M, Colorado-Yohar SM, Zilhão NR, Dahm CC, Llanaj E, Schulze MB, Petrova D, Sieri S, Ricceri F, Masala G, Key T, Viallon V, Rinaldi S, Freisling H, Dossus L. Association of body shape phenotypes and body fat distribution indexes with inflammatory biomarkers in the European Prospective Investigation into Cancer and Nutrition (EPIC) and UK Biobank. BMC Med. 2024 Aug 15;22(1):334. doi: 10.1186/s12916-024-03544-3. PMID: 39148045; PMCID: PMC11328449.**

**Zhang H, Ren Z, Peng X, Guo T. Mediating Effects of Systemic Inflammation on the Association Between Body Roundness Index and Periodontitis in US Adults. Int Dent J. 2025 Jun 10;75(4):100832. doi: 10.1016/j.identj.2025.04.012. Epub ahead of print. PMID: 40499289; PMCID: PMC12180997. Email ABSI superior**

**Christakoudi S, Tsilidis KK, Gunter MJ, Riboli E. Associations of leucocyte subtypes and platelet parameters with kidney cancer risk in the UK Biobank cohort. J Inflamm (Lond). 2025 Aug 11;22(1):31. doi: 10.1186/s12950-025-00458-6. PMID: 40790491**

# Neuro-Psychjump

# Lotfi K, Hassanzadeh Keshteli A, Saneei P, Afshar H, Esmaillzadeh A and Adibi P (2022) A Body Shape Index and Body Roundness Index in Relation to Anxiety, Depression, and Psychological Distress in Adults. *Front. Nutr.* 9:843155. doi: 10.3389/fnut.2022.843155

**Wang Y, Zhang X, Li Y, Gui J, Mei Y, Yang X, Liu H, Guo LL, Li J, Lei Y, Li X, Sun L, Yang L, Yuan T, Wang C, Zhang D, Li J, Liu M, Hua Y, Zhang L. Predicting depressive symptom by cardiometabolic indicators in mid-aged and older adults in China: a population-based cross-sectional study. Front Psychiatry. 2023 Jun 7;14:1153316. doi: 10.3389/fpsyt.2023.1153316. PMID: 37351000; PMCID: PMC10282944.**

# \Nam KW, Kwon HM, Jeong HY, Park JH, Kwon H. Association of Body Shape Index with Cerebral Small Vessel Disease. Obes Facts. 2023;16(2):204-211. doi: 10.1159/000528701. Epub 2022 Dec 19. PMID: 36535265; PMCID: PMC10028365.

**Jibril AT, Ganjeh BJ, Mirrafiei A, Firouzi M, Norouziasl R, Ghaemi S, Bafkar N, Jayedi A, Djafarian K, Shab-Bidar S. Dose-response association of obesity and risk of mental health among tehranian residents: result of a cross-sectional study. BMC Public Health. 2024 May 29;24(1):1444. doi: 10.1186/s12889-024-18670-z. PMID: 38811944; PMCID: PMC11138087.**

**Zhang Y, Zhang P, Yin D. Association between a body shape index and cognitive impairment among us older adults from a cross-sectional survey of the NHANES 2011-2014. Lipids Health Dis. 2024 Jun 5;23(1):169. doi: 10.1186/s12944-024-02165-2. PMID: 38840158; PMCID: PMC11151546.**

**Development of a machine learning algorithm to predict the residual cognitive reserve index Brandon E. Gavett,1 Sarah Tomaszewski Farias,1 Evan Fletcher,1 Keith Widaman,2 Rachel A. Whitmer,1,3 and Dan Mungas1 for the Alzheimer’s Disease Neuroimaging Initiative\* waiting pub med citation**

**Zhang H, Chen R, Ma A, Li W, Zhao X, Pang T, Wen H, Qu H, Xu X. The association between abdominal obesity and depressive symptoms among Chinese adults: Evidence from national and regional communities. J Affect Disord. 2024 Aug 13:S0165-0327(24)01289-8. doi: 10.1016/j.jad.2024.08.075. Epub ahead of print. PMID: 39147156. ABSI and depression**

**Yan Z, Gu Q, Yin H, Yi M, Wang X, Sun R, Liang F, Cai D, Qi W. Association of weight-adjusted waist index (WWI) and a body shape index (ABSI) with serum neurofilament light chain levels in a national study of U.S. adults. Eat Weight Disord. 2024 Nov 29;29(1):76. doi: 10.1007/s40519-024-01706-z. PMID: 39612146; PMCID: PMC11607027.**

**Bi C, Ran X, Zhang F, Liu Y, Li J, Niu Y and Yang G (2025) A comparative study of multiple physical assessment indicators to identify psychological symptoms: a cross-sectional study based on Chinese adolescents. *Front. Nutr*. 12:1511639. doi: 10.3389/fnut.2025.1511639**

**Lin C-Y, Zhai Y-J, Wu F, An H-H, Chen T, Qiu H-N, Li J-B and Lin J-N (2025) Interaction and overall effects of underweight, low muscle mass, malnutrition, and inflammation on early-onset mild cognitive impairment in type 2 diabetes. *Front. Aging Neurosci.* 17:1498478. doi: 10.3389/fnagi.2025.1498478**

**Teng TQ, Wang MM, Mo DG, Xie YY, Chen R, Xu JC, Liu J, Yu HC. Synergistic effects of a body shape index and depression on mortality in individuals with low sexual frequency. J Affect Disord. 2025 Jul 1;380:104-112. doi: 10.1016/j.jad.2025.03.129. Epub 2025 Mar 22. PMID: 40122262.**

**Baek SU, Yoon JH. Association of objective body shape and perceived body image with depressive symptoms in men and women. Psychiatry Clin Neurosci. 2025 May 12. doi: 10.1111/pcn.13836. Epub ahead of print. PMID: 40353674.**

# Chen Y-T, Wei C-J, Wang Z-C, Xie Y-M, Wang X and Wang J (2025) Fasting blood glucose mediated the association between a body shape index and depression: a cross sectional study from NHANES 2017–2023. Front. Nutr. 12:1537644. doi: 10.33

**Liu G, Xu Q, Zhang S, Zhang J. Association of a modified body shape index with cognitive impairment in middle-aged and elderly Chinese adults: a cross-sectional analysis from CHARLS. Front Nutr. 2025 Jun 4;12:1589898. doi: 10.3389/fnut.2025.1589898. PMID: 40535043; PMCID: PMC12173849**

**Lin C-Y, Zhai Y-J, Wu F, An H-H, Chen T, Qiu H-N, Li J-B and Lin J-N (2025) Interaction and overall effects of underweight, low muscle mass, malnutrition, and inflammation on early-onset mild cognitive impairment in type 2 diabetes. *Front. Aging Neurosci.* 17:1498478. doi: 10.3389/fnagi.2025.1498478**

**OB/Gynjump**

**Loy SL, Cheung YB, Soh SE, Ng S, Tint MT, Aris IM, Bernard JY, Chong YS, Godfrey KM, Shek LP, Tan KH, Lee YS, Tan HH, Chern BSM, Lek N, Yap F, Chan SY, Chi C, Chan JKY. Female adiposity and time-to-pregnancy: a multiethnic prospective cohort. Hum Reprod. 2018 Nov 1;33(11):2141-2149. doi: 10.1093/humrep/dey300. PMID: 30285230; PMCID: PMC6201836. (ABSI ns)**

## **Farahmand M, Ramezani Tehrani F, Rahmati M, Azizi F. Anthropometric Indices and Age at Natural Menopause: A 15-Year Follow-up Population-Based Study. Int J Endocrinol Metab. 2021 Aug 5;19(4):e109285. doi: 10.5812/ijem.109285. PMID: 35043051; PMCID: PMC8761485.**

**Kiremitli T, Kiremitli S, Ulug P, Dinc K, Uzel K, Arslan YK. Are the body shape index, the body roundness index and waist-to-hip ratio better than BMI to predict recurrent pregnancy loss? Reprod Med Biol. 2021 May 21;20(3):327-333. doi: 10.1002/rmb2.12388. PMID: 34262401; PMCID: PMC8254164.**

**Amiri M, Mousavi M, Azizi F, Ramezani Tehrani F. The relationship of reproductive factors with adiposity and body shape indices changes overtime: findings from a community-based study. J Transl Med. 2023 Feb 22;21(1):137. doi: 10.1186/s12967-023-04000-1. PMID: 36814308; PMCID: PMC9948339.**

**Gao H, Zhang Y, Chen LW, Gan H, Lu MJ, Huang B, Tong J, Geng ML, Huang K, Zhang C, Zhu BB, Shao SS, Zhu P, Tao FB. Associating phthalate exposure during pregnancy with preschooler's FMI, ABSI and BRI trajectories via putative mechanism pathways. Chemosphere. 2023 Jun 28:139300. doi: 10.1016/j.chemosphere.2023.139300. Epub ahead of print. PMID: 37391081.**

# Abubakar, S. M., Shehu, A., & Gadanya, A. M. (2023). Comparison Between Urban and Rural of Anthropometry Indices in Women of Reproductive Age in Kano, Nigeria State. *Malaysian Journal of Applied Sciences*, *8*(1), 12-21. <https://doi.org/10.37231/myjas.2023.8.1.336>

# Hewage N, Wijesekara U, Perera R. Determining the best method for evaluating obesity and the risk for non-communicable diseases in women of childbearing age by measuring the body mass index, waist circumference, waist-to-hip ratio, waist-to-height ratio, A Body Shape Index, and hip index. Nutrition. 2023 Oct;114:112135. doi: 10.1016/j.nut.2023.112135. Epub 2023 Jun 16. PMID:

# Keles E, Kaya L, Yakşi N, Kaya Z, Tosun Ö. Impact of anthro-metabolic indices and gestational weight gain on maternal and neonatal outcomes: a prospective observational study. Rev Assoc Med Bras (1992). 2024 Mar 25;70(4):e20231101. doi: 10.1590/1806-9282.20231101. PMID: 38537008; PMCID: PMC10962266.

**Does Physical Activity Level Affect Homocysteine and Obesity Variables in Women with Cardiovascular Disease? July 2021,** [**Medical Laboratory Journal**](https://www.researchgate.net/journal/Medical-Laboratory-Journal-2538-4449)**15(4):21-27 DOI:**[**10.52547/mlj.15.4.21**](http://dx.doi.org/10.52547/mlj.15.4.21) **(Physical activity and ABSI)**

**Hewage N, Wijesekara U, Perera R. Insulin Resistance-Related Cardiometabolic Risk Among Nondiabetic Childbearing Age Females. Metab Syndr Relat Disord. 2024 Apr 11. doi: 10.1089/met.2024.0009. Epub ahead of print. PMID: 38603585.**

**Yang Q, Wuliu J, Zeng L, Huang J, Tang G, Zhang J, Liao K, Deng K. Association between a body shape index and female infertility: a cross-sectional study. BMC Womens Health. 2024 Sep 4;24(1):486. doi: 10.1186/s12905-024-03335-1. PMID: 39227849; PMCID: PMC11373282.**

**Ortho/Osteoporosisjump**

**Mondelli M, Farioli A, Mattioli S, Aretini A, Ginanneschi F, Greco G, Curti S. Severity of Carpal Tunnel Syndrome and Diagnostic Accuracy of Hand and Body Anthropometric Measures. PLoS One. 2016 Oct 21;11(10):e0164715. doi: 10.1371/journal.pone.0164715. PMID: 27768728; PMCID: PMC5074522**

**Wang YJ, Zhang JC, Zhang YZ, Liu YH. Assessment of functional prognosis of anterior cruciate ligament reconstruction in athletes based on a body shape index. World J Clin Cases 2023; 11(19): 4567-4578 [DOI:** [**10.12998/wjcc.v11.i19.4567**](https://dx.doi.org/10.12998/wjcc.v11.i19.4567)**]**

**Lin R, Tao Y, Li C, Li F, Li Z, Hong X, Liu Y. Central obesity may affect bone development in adolescents: association between abdominal obesity index ABSI and adolescent bone mineral density. BMC Endocr Disord. 2024 Jun 6;24(1):81. doi: 10.1186/s12902-024-01600-w. PMID: 38890674; PMCID: PMC11186089**

**Zhang, M., Hou, Y., Ren, X. *et al.* Association of a body shape index with femur bone mineral density among older adults: NHANES 2007–2018. *Arch Osteoporos* 19, 63 (2024).** [**https://doi.org/10.1007/s11657-024-01424-0**](https://doi.org/10.1007/s11657-024-01424-0)

**Ding Z, Qu X, Zhu Q, Tang J, Zhu Z, Chen C, Chu F, Sun M, Yuan F. Abdominal obesity: A lethal factor in elderly male osteoporosis patients - insights from NHANES. Nutr Metab Cardiovasc Dis. 2024 Nov 8:103788. doi: 10.1016/j.numecd.2024.103788. Epub ahead of print. PMID: 39674721.**

**Wu, J., Wu, G. Association between a body shape index and bone mineral density in US adults based on NHANES data. *Sci Rep* 15, 2817 (2025).** [**https://doi.org/10.1038/s41598-025-86939-3**](https://doi.org/10.1038/s41598-025-86939-3)

**Zhang, J., Wang, Y., Guo, J. *et al.* The association between ten anthropometric measures and osteoporosis and osteopenia among postmenopausal women. *Sci Rep* 15, 10994 (2025).** [**https://doi.org/10.1038/s41598-025-94218-4**](https://doi.org/10.1038/s41598-025-94218-4) **see supplement**

**Xie S, Xiao H, Li G, Zheng J, Zhang F, Lan Y, Luo M. Association between a body shape index and low back pain: a cross-sectional study highlighting gender-specific differences in NHANES data. BMC Public Health. 2025 Feb 24;25(1):753. doi: 10.1186/s12889-025-21904-3. PMID: 39994591; PMCID: PMC11852558.**

# Wang ZZ, Ma GL, Xu B, Chen X, Yang BW, Qin XK, Duan WL, Feng MS, Yin H, Sun K, Zhu LG. Association between A body shape index and bone mineral density in middle-aged and elderly adults: a retrospective analysis of NHANES 2005-2018. Front Endocrinol (Lausanne). 2025 Apr 7;16:1506841. doi: 10.3389/fendo.2025.1506841. PMID: 40260279; PMCID: PMC12009725.

# Niu HG, Hu GK, Li T, Guo Z, Hu Y, Gong YK, Ye GQ, Chen DJ, An JL, Gao WS. Association of a Body Shape Index with Bone Mineral Density and Osteoporosis Among U.S. Adults: Evidence from NHANES. Calcif Tissue Int. 2025 May 25;116(1):76. doi: 10.1007/s00223-025-01386-6. PMID: 40415018.

# Wu M, Lu B, Wang Y, Zhang A, Zhou X, Zeng X, Zhu Y, Chen S, Lin R. The association between A Body Shape Index and total bone mineral density in adults aged 20 to 59 NHANES 2011 to 2018. Medicine (Baltimore). 2025 May 30;104(22):e42652. doi: 10.1097/MD.0000000000042652. PMID: 40441217; PMCID: PMC12129514.

# .

**Pulmonaryjump**

**Godoroja DD, Cioc DA. Identification of significant obstructive sleep apnoea in the obese patient: development of the novel DX-OSA score. Rom J Anaesth Intensive Care. 2016 Oct;23(2):111-121. doi: 10.21454/rjaic.7518/232.dxo. PMID: 28913484; PMCID: PMC5505384. Annotation (ROC with ABSI weak relationship but could be augmented by BMI- which gave highest association – No referemce)**

# Kolena B, Petrovičová I, Šidlovská M, Hlisníková H, Bystričanová L, Wimmerová S, Trnovec T. Occupational Hazards and Risks Associated with Phthalates among Slovakian Firefighters. Int J Environ Res Public Health. 2020 Apr 5;17(7):2483. doi: 10.3390/ijerph17072483. PMID: 32260494; PMCID: PMC7178246. Annotation “We observed a positive association between phthalate metabolites ) and waist-to-hip ratio (WHR; *p* = 0.003-0.09) and body shape index (ABSI; *p* = 0.039-0.09) …exposure to phthalates could be linked with changing body structure, which subsequently affects values of pulmonary functions in firefighters.”

**Soltanifar M, Karunanayake C, Khadka D, Henderson R, Konehnck N, et al. (2019) Is A Body Shape Index (ABSI) Predictive of Lung Function?. Int J Respir Pulm Med 6:101. doi.org/10.23937/2378-3516/1410101 Annotation; “ABSI may be considered as a key predictor for spirometric lung functions in men and women for Canadian First Nation Populations with more significant results in men.”**

# Zhang RH, Zhou JB, Cai YH, Shu LP, Yang J, Wei W, Lecube A. Non-linear association of anthropometric measurements and pulmonary function. Sci Rep. 2021 Jul 16;11(1):14596. doi: 10.1038/s41598-021-93985-0. PMID: 34272443.

# Annotation “Furthermore, the associations between BMI and FEV1, as well as FVC, were reversed U-shape in both males and females. Similar non-linear association shape occurred in WC, PBF, BRI and ABSI. “

**Davis TME, Drinkwater JJ, Davis WA. Pulmonary Function Trajectories Over 6 Years and Their Determinants in Type 2 Diabetes: The Fremantle Diabetes Study Phase II. Diabetes Care. 2024 Jan 11:dc231726. doi: 10.2337/dc23-1726. Epub ahead of print. PMID: 38211617. See supplement for BMI, ABSI and PFT**

**Pan X, Liu F, Fan J, Guo Q, Guo M, Chen Y, Sun J and Cao X (2024) Association of Body Roundness Index and A Body Shape Index with Obstructive Sleep Apnea: insights from NHANES 2015–2018 data. Front. Nutr. 11:1492673. doi: 10.3389/fnut.2024.1492673 ABSI and incident sleep apnea bell curve**

**Yeşildağ M, Şentürk Z, Bekci TT, Guney İ. The Usefulness of New Body Indices in Determining the Risk of Cardiovascular Disease in Cases with Obstructive Sleep Apnea Syndrome. Int J Gen Med. 2024 Nov 26;17:5523-5534. doi: 10.2147/IJGM.S489904. PMID: 39624611; PMCID: PMC11609410. Cor(BMI,ABSI) ~ -0.6!**

**Li, Y., Zhou, H., Xu, D. *et al.* Independent and joint associations of physical activity and a body shape index with sleep disorders in older adults with cardiometabolic multimorbidity: a cross-sectional study. *BMC Geriatr* 25, 519 (2025). https://doi.org/10.1186/s12877-025-06170-7**

**Mona El-Awady, Neveen Abed, A Body Shape Index Versus Body Mass Index in the Assessment of Nutritional Status Among Egyptian Primary School Children Infected with Intestinal Helminthiasis, *Science Journal of Public Health*. Special Issue:Malnutrition in Developing Countries. Vol. 5, No. 5-1, 2017, pp. 13-18. doi: 10.11648/j.sjph.s.2017050501.13**

**Hatami H, Montazeri SA, Hashemi N, Ramezani Tehrani F. Optimal Cutoff Points for Anthropometric Variables to Predict Insulin Resistance in Polycystic Ovary Syndrome. Int J Endocrinol Metab. 2017 Jul 30;15(4):e12353. doi: 10.5812/ijem.12353. PMID: 29344030; PMCID: PMC5750677.**

**Amador C, Xia C, Nagy R, Campbell A, Porteous D, Smith BH, Hastie N, Vitart V, Hayward C, Navarro P, Haley CS. Regional variation in health is predominantly driven by lifestyle rather than genetics. Nat Commun. 2017 Oct 6;8(1):801. doi: 10.1038/s41467-017-00497-5. PMID: 28986520; PMCID: PMC5630587.**

**Kamrani F, Imannezhad M, Jafari M, Mahdavizadeh V, Bajgiran MM, Moohebati M, Esmaily H, Ghayour-Mobarhan M, Darroudi S. Association between sleep duration and long-term changes in novel anthropometric and atherogenic indices: a cohort study. BMC Public Health. 2025 May 1;25(1):1611. doi: 10.1186/s12889-025-22868-0. PMID: 40312712; PMCID: PMC12044872.**

**Hu J, Tang S, Zhu Q, Liao H. Predictive value of six anthropometric indicators for prevalence and mortality of obstructive sleep apnoea asthma and COPD using NHANES data. Sci Rep. 2025 May 9;15(1):16190. doi: 10.1038/s41598-025-99490-y. PMID: 40346342; PMCID: PMC12064750.** [**https://doi.org/10.1038/s41598-025-99490-y**](https://doi.org/10.1038/s41598-025-99490-y) **only for OSA ABSI sole predictor**

**Jiang G, Feng L, Qu X, Wang J, Li Y. Inverted L-shape association between a body shape index and peak expiratory flow among middle-aged and older adults: findings from the China Health and Retirement Longitudinal Study (CHARLS). Lipids Health Dis. 2025 May 17;24(1):181. doi: 10.1186/s12944-025-02599-2. PMID: 40382617.**

**Renaljump,**

**Gurecká R, Koborová I, Šebek J, Šebeková K. Presence of Cardiometabolic Risk Factors Is Not Associated with Microalbuminuria in 14-to-20-Years Old Slovak Adolescents: A Cross-Sectional, Population Study. PLoS One. 2015 Jun 5;10(6):e0129311. doi: 10.1371/journal.pone.0129311. PMID: 26046923; PMCID: PMC4489371.**

**Su W-Y, Chen I-H, Gau Y-C, Wu P-Y, Huang J-C, Tsai Y-C, Chen S-C, Chang J-M, Hwang S-J, Chen H-C. Metabolic Syndrome and Obesity-Related Indices Are Associated with Rapid Renal Function Decline in a Large Taiwanese Population Follow-Up Study. Biomedicines. 2022; 10(7):1744.**

# Zhang Y, Gao W, Li B, Liu Y, Chen K, Wang A, Tang X, Yan L, Luo Z, Qin G, Chen L, Wan Q, Gao Z, Wang W, Ning G, Mu Y. The association between a body shape index and elevated urinary albumin-creatinine ratio in Chinese community adults. Front Endocrinol (Lausanne). 2022 Jul 28;13:955241. doi: 10.3389/fendo.2022.955241. PMID: 35966103; PMCID: PMC9365939.

# Sun Y, Yan Y, Liao Y, Chu C, Guo T, Ma Q, Wang Y, Wang D, Jia H, Mu J. The new visceral adiposity index outperforms traditional obesity indices as a predictor of subclinical renal damage in Chinese individuals: a cross-sectional study. BMC Endocr Disord. 2023 Apr 7;23(1):78. doi: 10.1186/s12902-023-01330-5. PMID: 37029402; PMCID: PMC10080835.

**Kjaergaard AD, Krakauer J, Krakauer N, Teumer A, Winkler TW, Ellervik C. Allometric body shape indices, T2D and kidney function: A two-sample Mendelian randomization study. Diabetes Obes Metab. 2023 Feb 28. doi: 10.1111/dom.15037. Epub ahead of print. PMID: 36855799.**

# Ryu K, Suliman ME, Qureshi AR, Chen Z, Avesani CM, Brismar TB, Ripsweden J, Barany P, Heimbürger O, Stenvinkel P, Lindholm B. Central obesity as assessed by conicity index and a-body shape index associates with cardiovascular risk factors and mortality in kidney failure patients. Front Nutr. 2023 Mar 1;10:1035343. doi: 10.3389/fnut.2023.1035343. PMID: 36937338; PMCID: PMC10016612.

**Zhu B, Shi Y, Song N, Zhao S, Shen B, Wang J, Zhang W, Lu Y, Fang Y, Ding X, Li Y. Associations between metabolic profiles and incident CKD in the Chinese population aged 45-85 years. Int Urol Nephrol. 2024 Feb 17. doi: 10.1007/s11255-023-03916-3. Epub ahead of print. PMID: 38367131.**

**Hu X, Li X, Ye N, Zhou Z, Li G, Jiang F. Association of novel anthropometric indices with prevalence of kidney stone disease: a population-based cross-sectional study. Eur J Med Res. 2024 Mar 27;29(1):204. doi: 10.1186/s40001-024-01743-5. PMID: 38539239; PMCID: PMC10967179.**

**Xue, F., Zhou, Y. Relationship between METS-IR and ABSI index and the prevalence of nocturia: a cross-sectional analysis from the 2005–2020 NHANES data. *Sci Rep* 14, 29971 (2024).** [**https://doi.org/10.1038/s41598-024-81721-3**](https://doi.org/10.1038/s41598-024-81721-3)

**He X, Liang F, Guo Y, Hou G, Chen X, Li L. Relationship Between A Body Shape Index and Self-Reported Stress Urinary Incontinence Among US Women: A Cross-Sectional Analysis. Int Urogynecol J. 2024 Dec 18. doi: 10.1007/s00192-024-06001-0. Epub ahead of print. PMID: 39692874.**

**Madani S, Masoumi SJ, Ahmadi A, Zare M, Hejazi N, Foshati S. The relationship between kidney function and cardiometabolic risk factors, anthropometric indices, and dietary inflammatory index in the Iranian general population: a cross-sectional study. BMC Nephrol. 2025 Jan 3;26(1):5. doi: 10.1186/s12882-024-03930-2. PMID: 39754042; PMCID: PMC11697862. Cor ABSI, GFR nil**

**Chen X, Wu Z, Hou X, Yu W, Gao C, Gou S, Fu P. Association between anthropometric indices and chronic kidney disease: Insights from NHANES 2009-2018. PLoS One. 2025 Feb 14;20(2):e0311547. doi: 10.1371/journal.pone.0311547. PMID: 39951449; PMCID: PMC11828394.**

**Zhang L, Liang C, Yan Z, Li Q. Association between cardiac metabolic index and diabetic kidney disease: a cross-sectional study of NHANES 1999-2018. J Health Popul Nutr. 2025 Apr 3;44(1):105. doi: 10.1186/s41043-025-00826-1. PMID: 40181374; PMCID: PMC11969728.**

**Nagayama D, Watanabe Y, Shirai K, Ohira M, Saiki A. Modified Metabolic Syndrome Criteria Considering Cardio-Ankle Vascular Index (CAVI) and A Body Shape Index (ABSI): Implications for Kidney Risk. Rev Cardiovasc Med. 2025 Mar 18;26(3):26583. doi: 10.31083/RCM26583. PMID: 40160561; PMCID: PMC11951487.**

**Chen M, Wang Y, Feng P, Wu L, Liu H, Liang Y, Yang M and Zheng Q (2025) The association between a body shape index and diabetic kidney disease in early-onset type 2 diabetes: evidence from a two-center study. Front. Endocrinol. 16:1553890. doi: 10.3389/fendo.2025.1553890**

**Zhang W, Liu Y. The Obesity-Related Indices Are Useful for Predicting Diabetic Nephropathy in Patients With Type II Diabetes Mellitus: A Retrospective Cohort Study of NHANES. Endocrinol Diabetes Metab. 2025 Sep;8(5):e70087. doi: 10.1002/edm2.70087. PMID: 40781847; PMCID: PMC12334795.**

**Thyroidjump**

**Demir Ş, Kara Y, Melikoğlu M, Aydın K, Özderya A, Subaşı HE, Dabak MR, Temizkan Ş. New Anthropometric Measurements: Relationship to Thyroid Functions in Euthyroid Obese Subjects. Cureus. 2021 Dec 15;13(12):e20435. doi: 10.7759/cureus.20435. PMID: 35047272; PMCID: PMC8759458.**

# Abstract: ..TSH was found to be negatively correlated with ABSI (p = 0.006) .. Free T4 was not associated with any of the anthropometric measurements.While fT3 was determined to be positively correlated with ABSI (p = 0.008) and negatively correlated with PBF and BAI (p = 0.001, p = 0.002, respectively),…

**Chubb SAP, Davis WA, Davis TME. Effects of subclinical hypothyroidism on nephropathy complicating type 2 diabetes: The Fremantle Diabetes Study Phase II. J Clin Endocrinol Metab. 2025 Aug 29:dgaf485. doi: 10.1210/clinem/dgaf485. Epub ahead of print. PMID: 40878912. ABSI not different with hypothyroidism**

**Uric Acidjump**

**Sánchez-Bacaicoa C, Santano-Mogena E, Rico-Martín S, Rey-Sánchez P, Juárez-Vela R, Sánchez Muñoz-Torrero JF, López-Espuela F, Calderón-García JF. Association between Asymptomatic Hyperuricemia with Adiposity Indices: A Cross-Sectional Study in a Spanish Population. Nutrients. 2023 Nov**

**Li Y, Zeng L. Comparison of seven anthropometric indexes to predict hypertension plus hyperuricemia among U.S. adults. Front Endocrinol (Lausanne). 2024 Mar 8;15:1301543. doi: 10.3389/fendo.2024.1301543. PMID: 38524637; PMCID: PMC10958198**

# Kelibinuer Mutailipu, Lei Du, Junwei Guo, Shuwei Liu, Yue Chen, Liesheng Lu, Shen Qu, Haibing Chen & Le Bu (2024) Sex-Based Differences in the Associations Between Obesity- and Lipid-Related Indexes and Hyperuricemia Risk in Patients with Obesity, Diabetes, Metabolic Syndrome and Obesity, , 4721-4733, DOI: 10.2147/DMSO.S4*8*3638

# Li, Jian MMa; Liu, Junbo MBa; Liu, Zhongyi MBa; Xie, Weining MDb,\*. Correlation between obesity-related indices and hyperuricemia among the elderly population in China: A cross-sectional study. Medicine 104(15):p e42112, April 11, 2025.

**Othersjump**

**Christakoudi S, Riboli E, Evangelou E, Tsilidis KK. Associations of body shape phenotypes with sex steroids and their binding proteins in the UK Biobank cohort. Sci Rep. 2022 Jun 24;12(1):10774. doi: 10.1038/s41598-022-14439-9. PMID: 35750890; PMCID: PMC9232606.**

# Ingleman J, Parker C, Coyer F. Exploring body morphology, sacral skin microclimate and pressure injury development and risk among patients admitted to an intensive care unit: A prospective, observational study. Intensive Crit Care Nurs. 2023 Dec 27:103604. doi: 10.1016/j.iccn.2023.103604. Epub ahead of print. PMID: 38155050.

# Nam Lyong Kang. New Obesity Index Associated with Fitness Among Korean Adults. International Journal of Clinical and Experimental Medical Sciences. Vol. 7, No. 1, 2021, pp. 5-12. doi: 10.11648/j.ijcems.20210701.12

# Geantă, V.A.; Ardelean, V.P.; Dulceanu, C.; Bulzan, C.; Forț, P.R.; Katanic, B.; Govindasamy, K.; Campos, F.; Gomes, R.; Ursu, V.E.; et al. Health-Related Physical Fitness of Romanian University Students: The European Fitness Badge Approach. *Healthcare* 2025, *13*, 1966. https://doi.org/10.3390/healthcare13161966

**Barbaro F, Conza GD, Quartulli FP, Quarantini E, Quarantini M, Zini N, Fabbri C, Mosca S, Caravelli S, Mosca M, Vescovi P, Sprio S, Tampieri A, Toni R. Correlation between tooth decay and insulin resistance in normal weight males prompts a role for myo-inositol as a regenerative factor in dentistry and oral surgery: a feasibility study. Front Bioeng Biotechnol. 2024 Jul 31;12:1374135. doi: 10.3389/fbioe.2024.1374135. PMID: 39144484; PMCID: PMC11321979. ABSI not associated with carries**

**Zhou Y, Chen Q, Abuduxukuer K, Wang C, Dong J, Wang Y, Shi W, Hou Y, Shi F, Luo J, Peng Q. Novel anthropometric indices are superior adiposity indexes to portend visual impairment in middle-aged and older Chinese population. BMJ Open Ophthalmol. 2024 Jul 15;9(1):e001664. doi: 10.1136/bmjophth-2024-001664. PMID: 39009464; PMCID: PMC11253769.**

**Papagiannopoulos CK, Markozannes G, Chalitsios CV, Christakoudi S, Gunter MJ, Dossus L, Martin RM, Tzoulaki I, Papandreou C, Tsilidis KK. Sex-stratified metabolic signatures of adiposity indices and their associations with clinical biomarkers in the UK Biobank. EBioMedicine. 2025 Aug 5;119:105868. doi: 10.1016/j.ebiom.2025.105868. Epub ahead of print. PMID: 40768833.**