Supplementary materials

Title: The effectiveness and safety of testosterone replacement therapy in the musculoskeletal system of males with hypogonadism: A systematic review and meta-analysis

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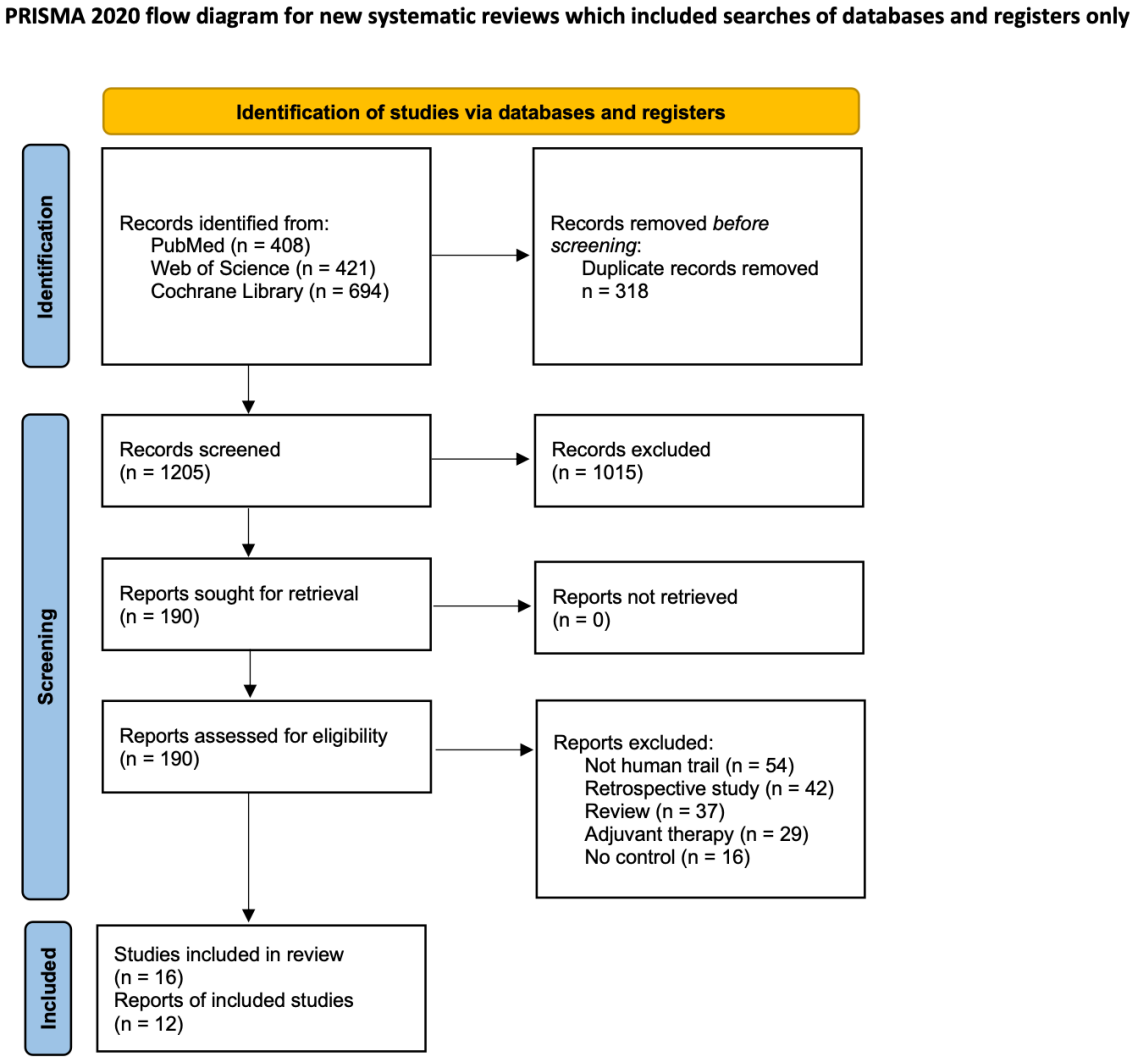
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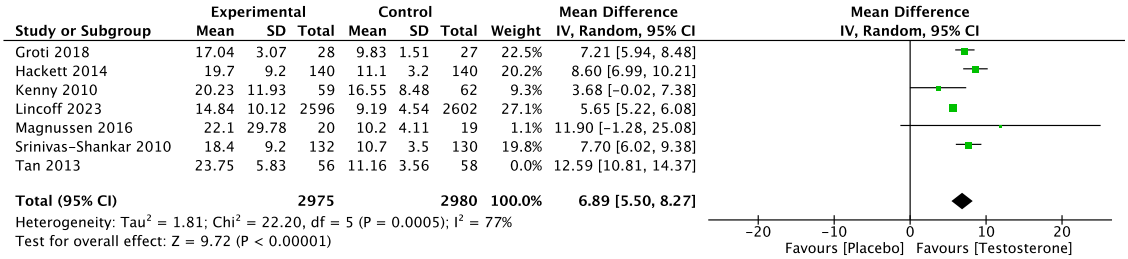
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S. Figure 1 Flowchart of meta-analysis

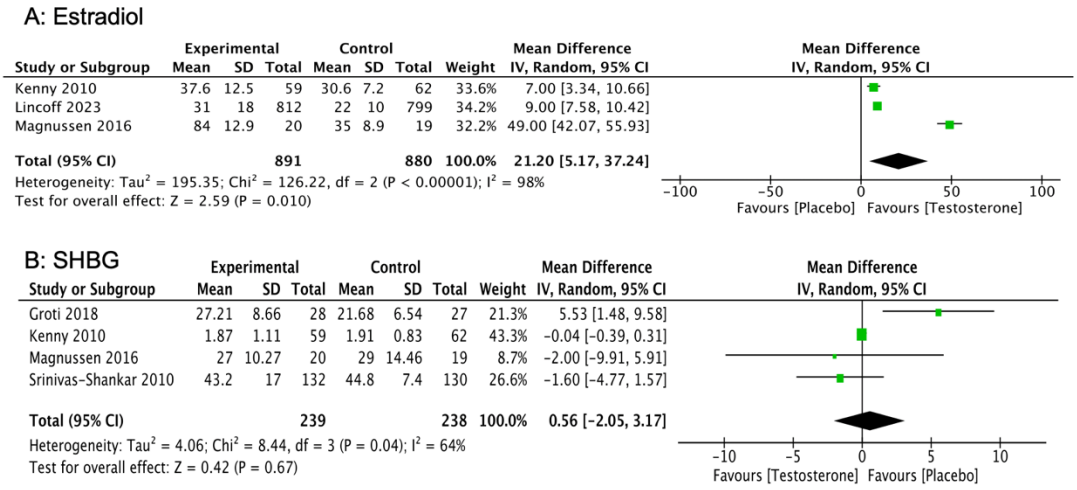


S. Figure 2 Sensitivity analysis of testosterone replacement therapy in total testosterone level



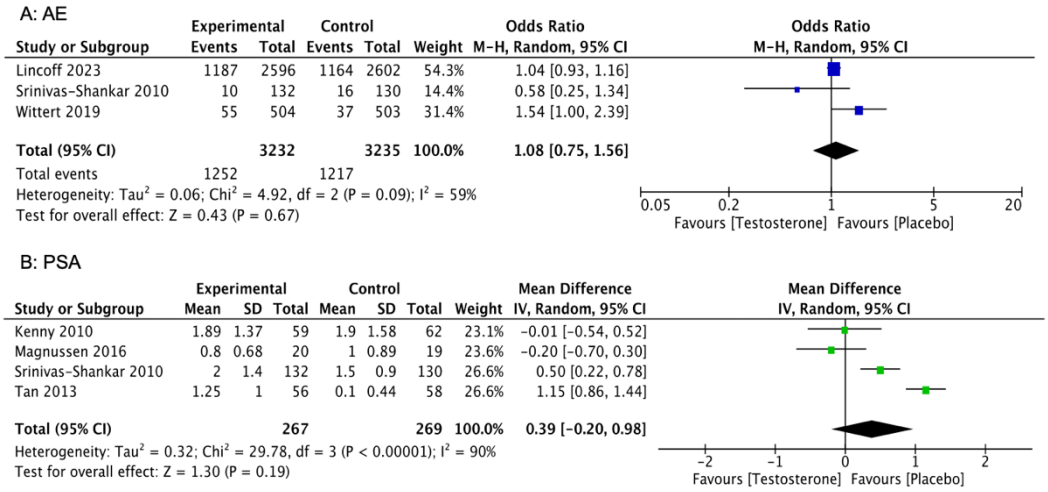
SD: standard deviation; CI: confidence interval

S. Figure3 Change of estradiol and sex hormone binding globulin.



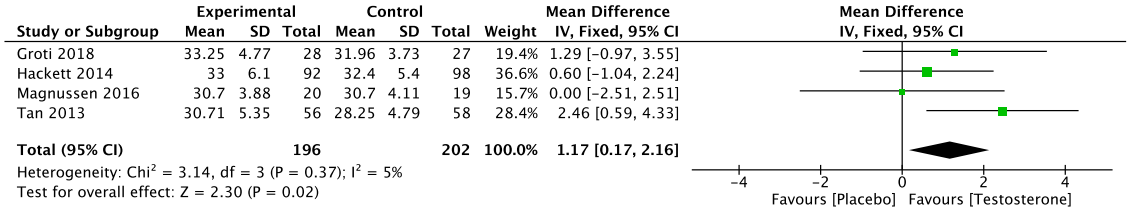
SD: standard deviation; CI: confidence interval; SHBG: sex hormone binding globulin

S. Figure 4 The risk of adverse event and prostate-specific antigen

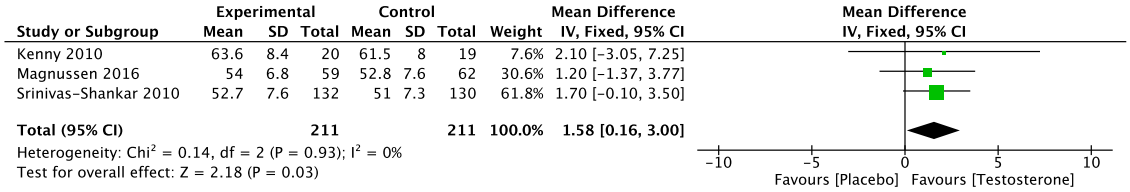


SD: standard deviation; CI: confidence interval

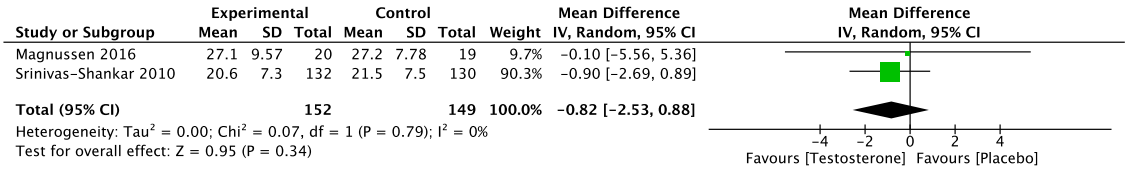
S. Figure 5 Fixed-Effects Model for Identifying Body Mass Index



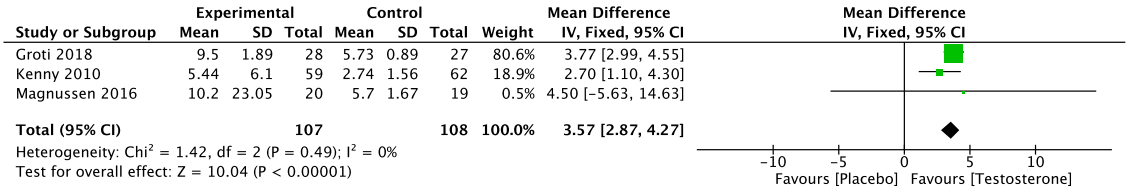
S. Figure 6 Fixed-Effects Model for Identifying Lean Body Mass



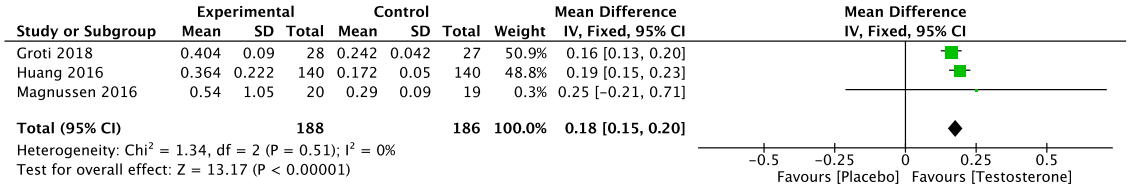
S. Figure 7 Fixed-Effects Model for Identifying Fat Mass



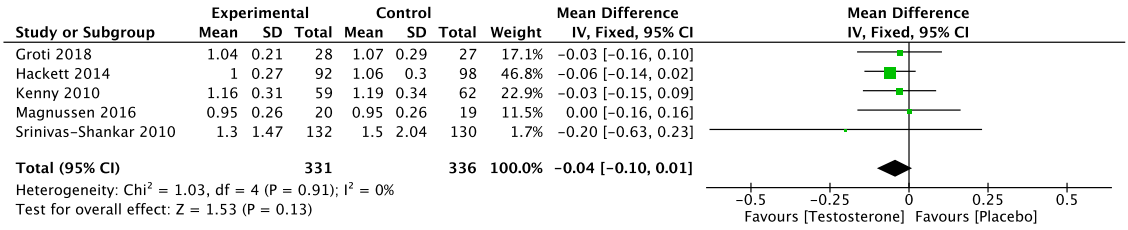
S. Figure 8 Fixed-Effects Model for Identifying Basal Testosterone



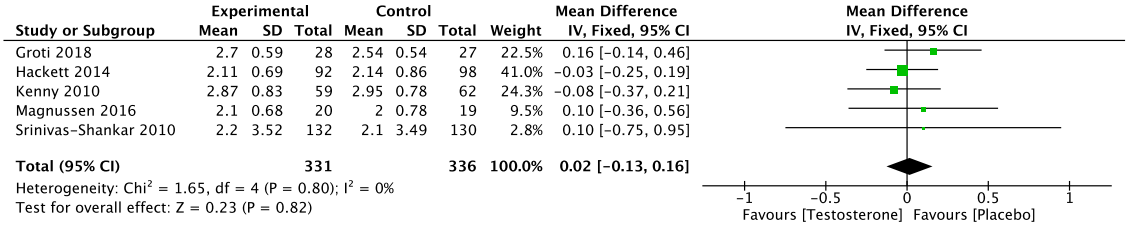
S. Figure 9 Fixed-Effects Model for Identifying Free Testosterone



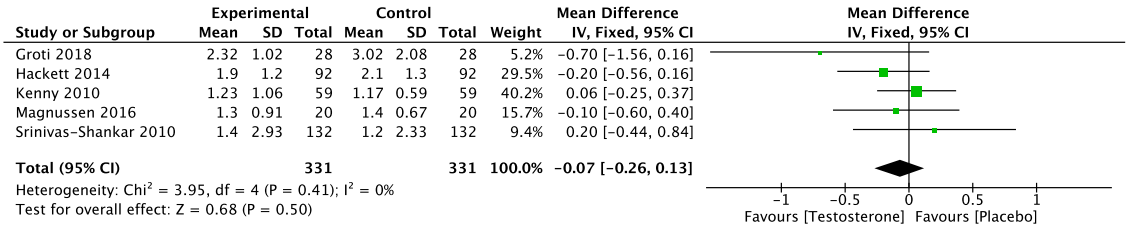
S. Figure 10 Fixed-Effects Model for Identifying HDL



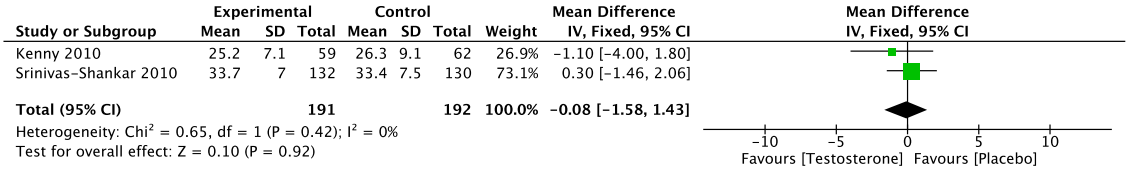
S. Figure 11 Fixed-Effects Model for Identifying LDL



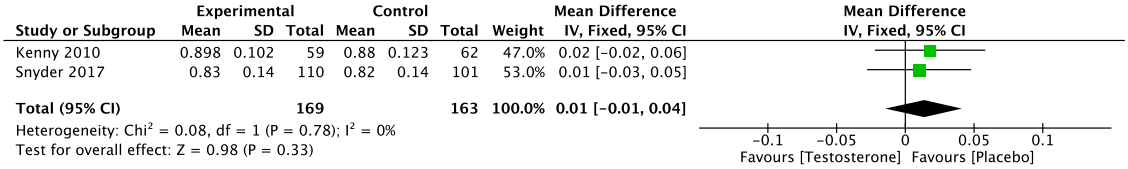
S. Figure 12 Fixed-Effects Model for Identifying TG



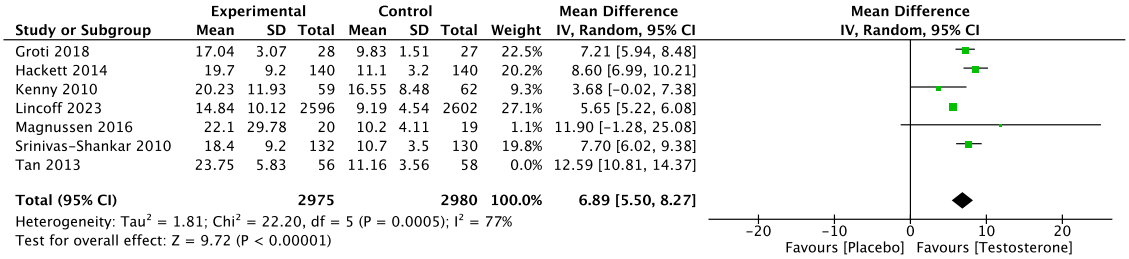
S. Figure 13 Fixed-Effects Model for Identifying grip strength



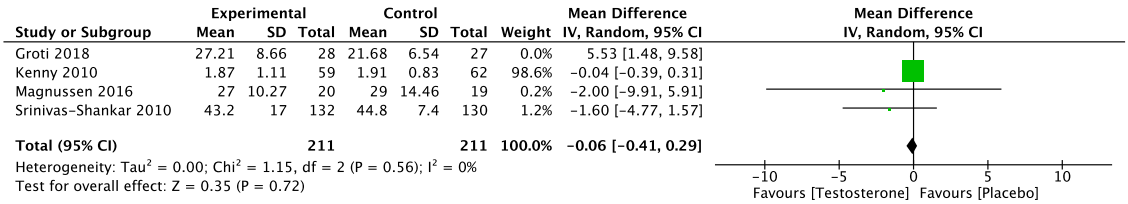
S. Figure 14 Fixed-Effects Model for Identifying femoral density



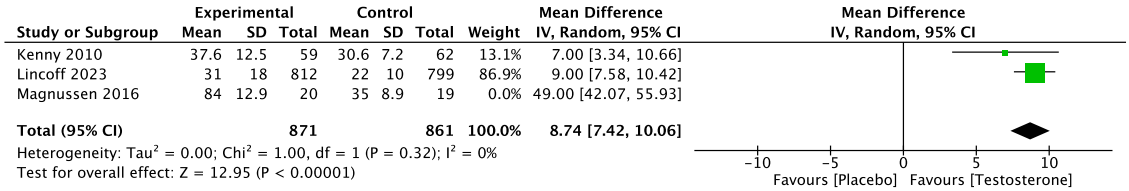
S. Figure 15 Sensitivity Analysis for Total Testosterone Identification



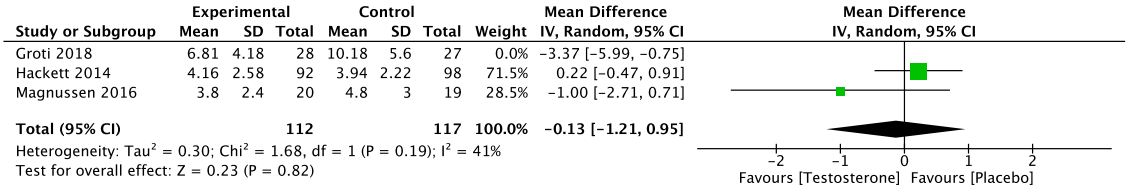
S. Figure 16 Sensitivity Analysis for SHBG Identification



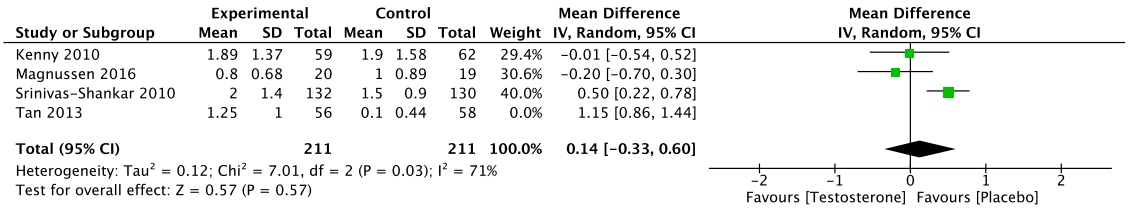
S. Figure 17 Sensitivity Analysis for estradiol Identification



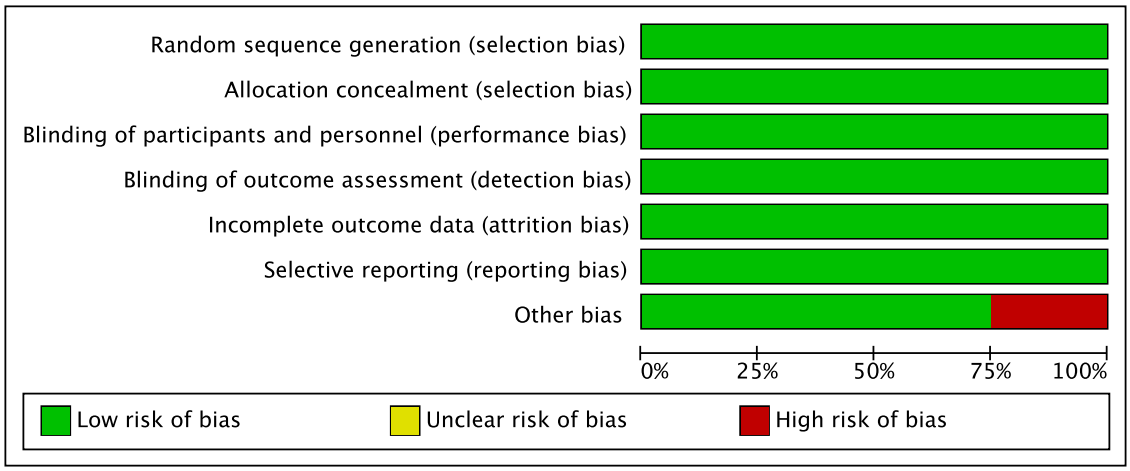
S. Figure 18 Sensitivity Analysis for HOMA-I Identification



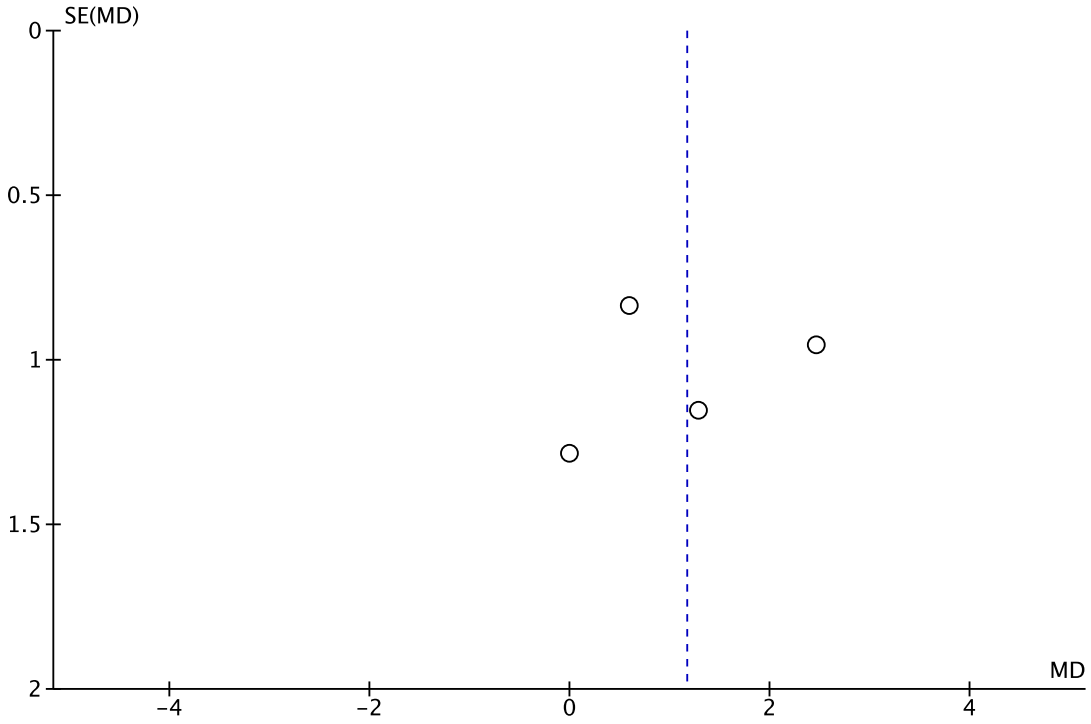
S. Figure 19 Sensitivity Analysis for PSA Identification



S. Figure 20 Risk of bias

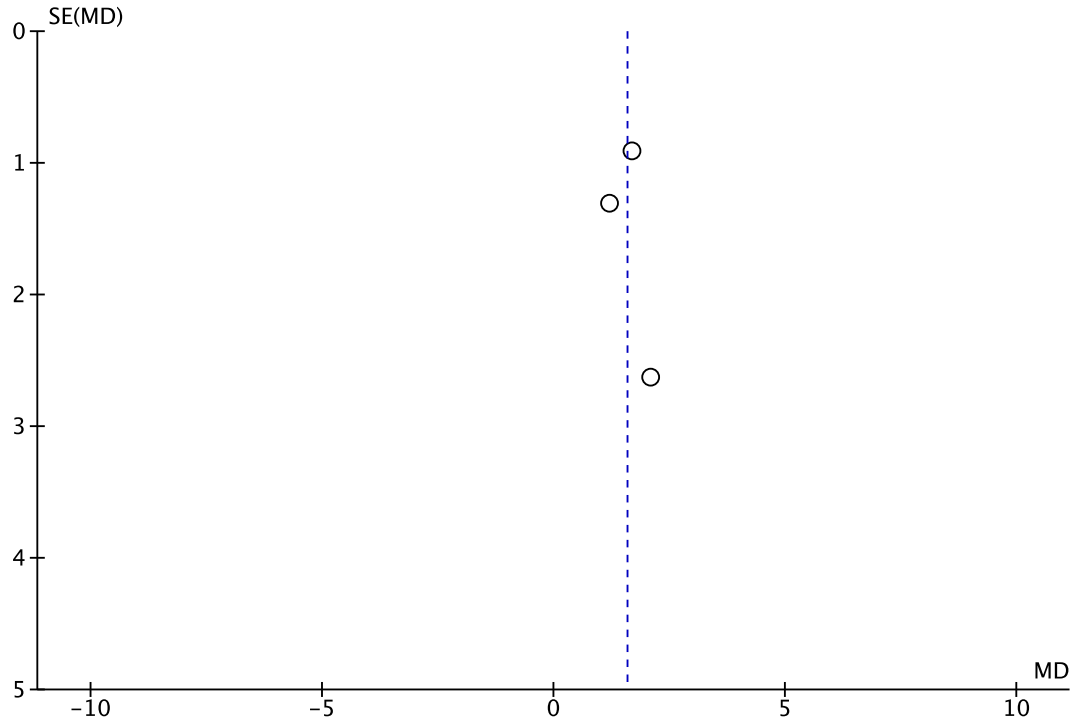


S. Figure 21 Publication bias of body mass index



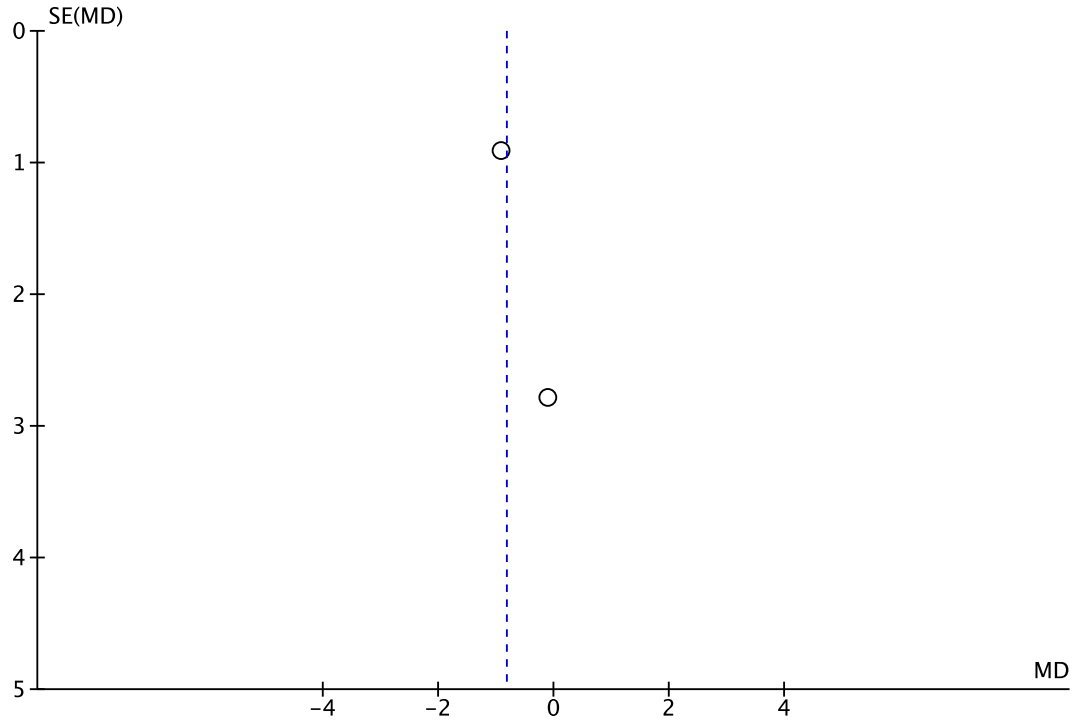
SE: standard error; MD: mean difference

S. Figure 22 Publication bias of lean body mass



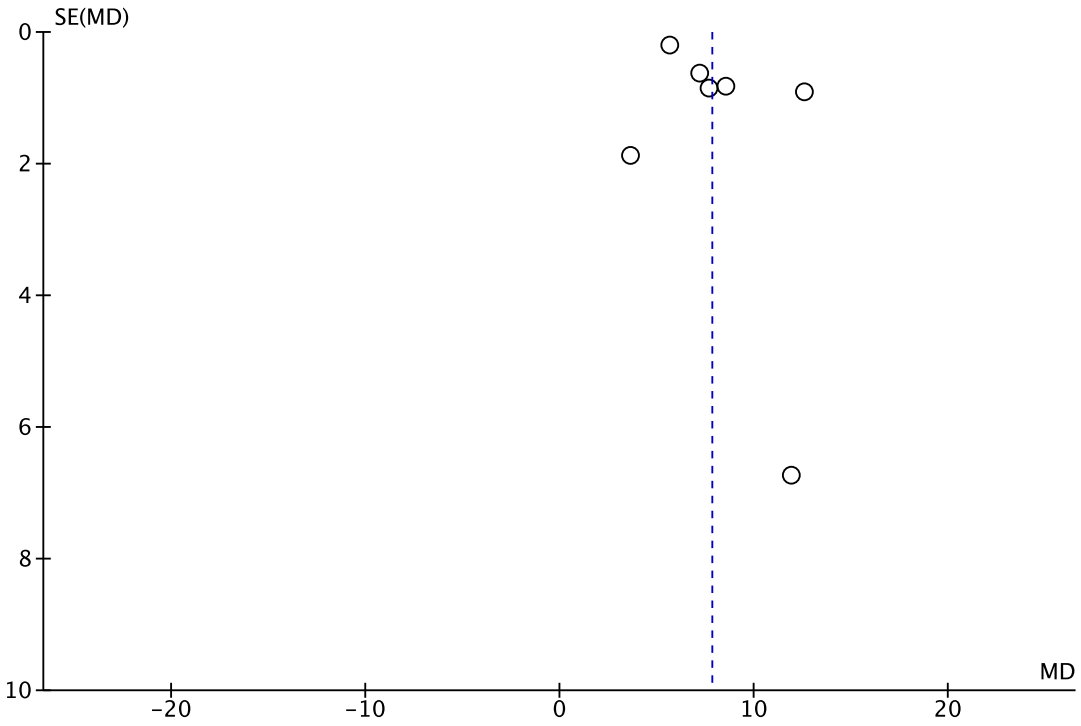
SE: standard error; MD: mean difference

S. Figure 23 Publication bias of fat mass



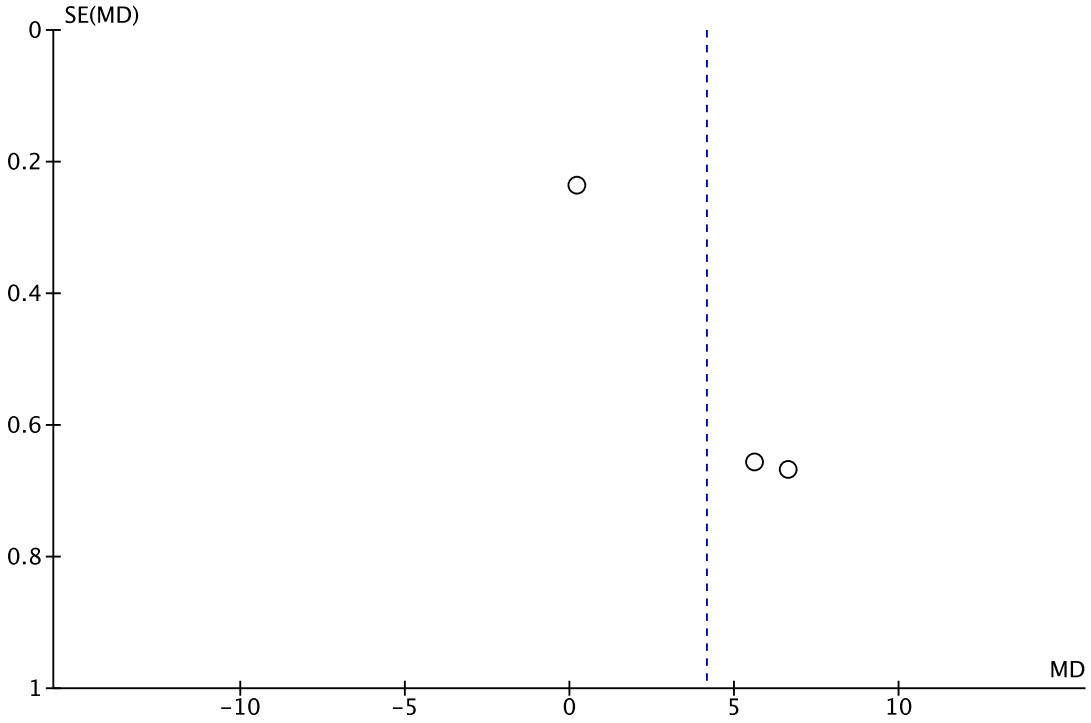
SE: standard error; MD: mean difference

S. Figure 24 Publication bias of total testosterone



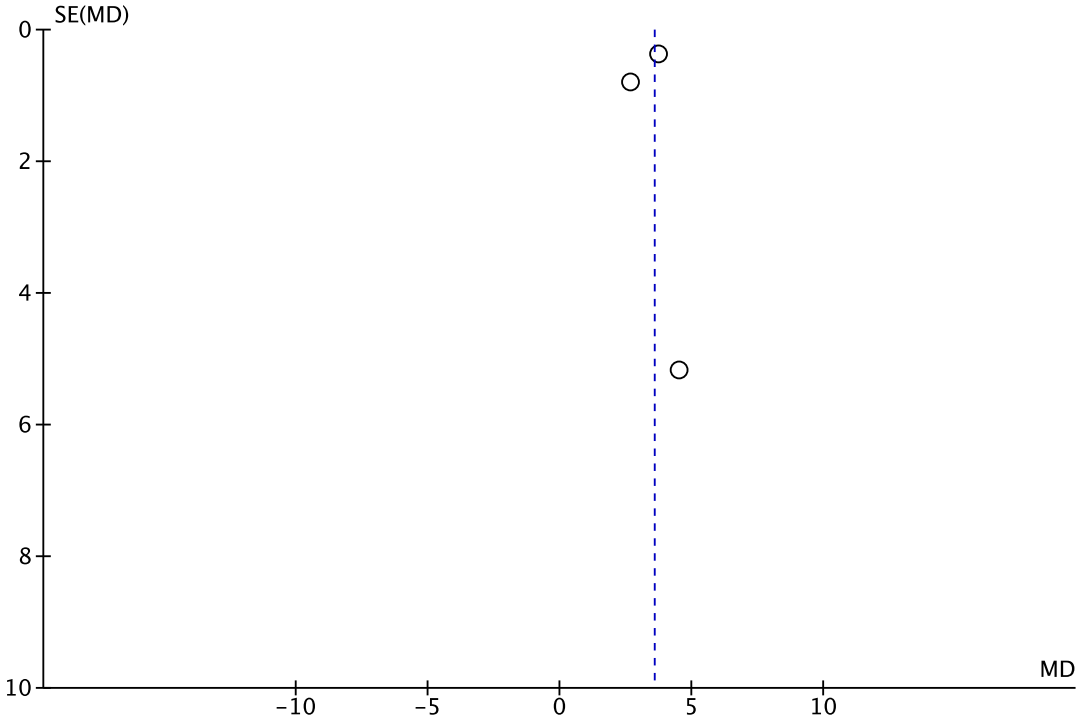
SE: standard error; MD: mean difference

S. Figure 25 Publication bias of free testosterone



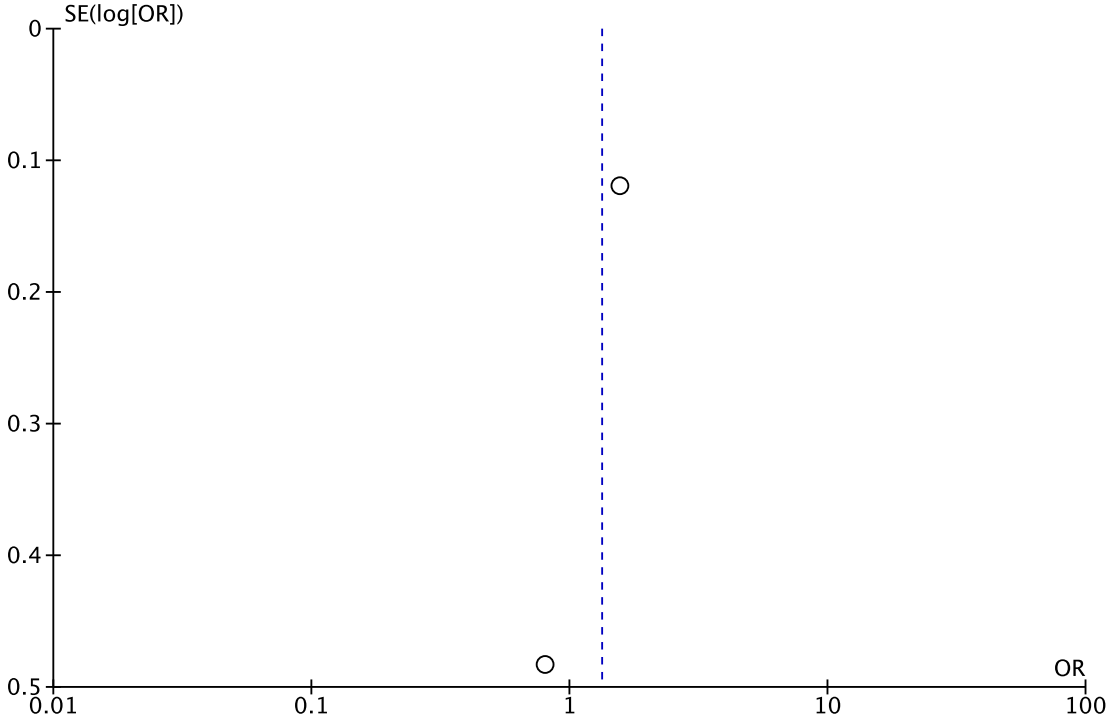
SE: standard error; MD: mean difference

S. Figure 26 Publication bias of bioavailable testosterone



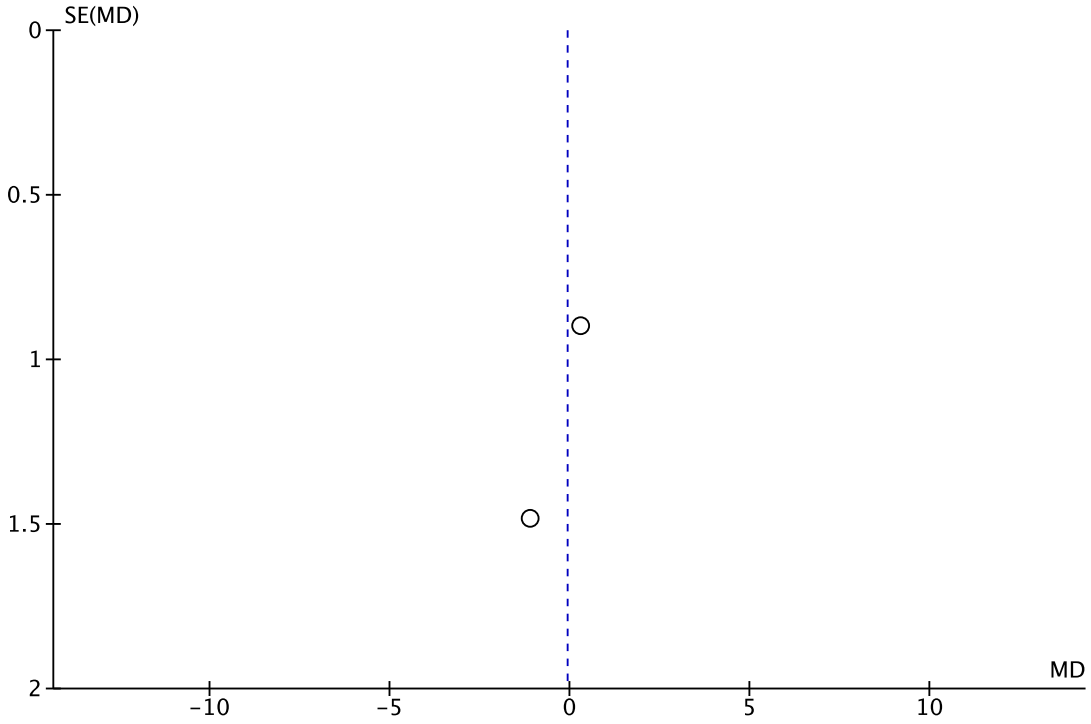
SE: standard error; MD: mean difference

S. Figure 27 Publication bias of fracture risk



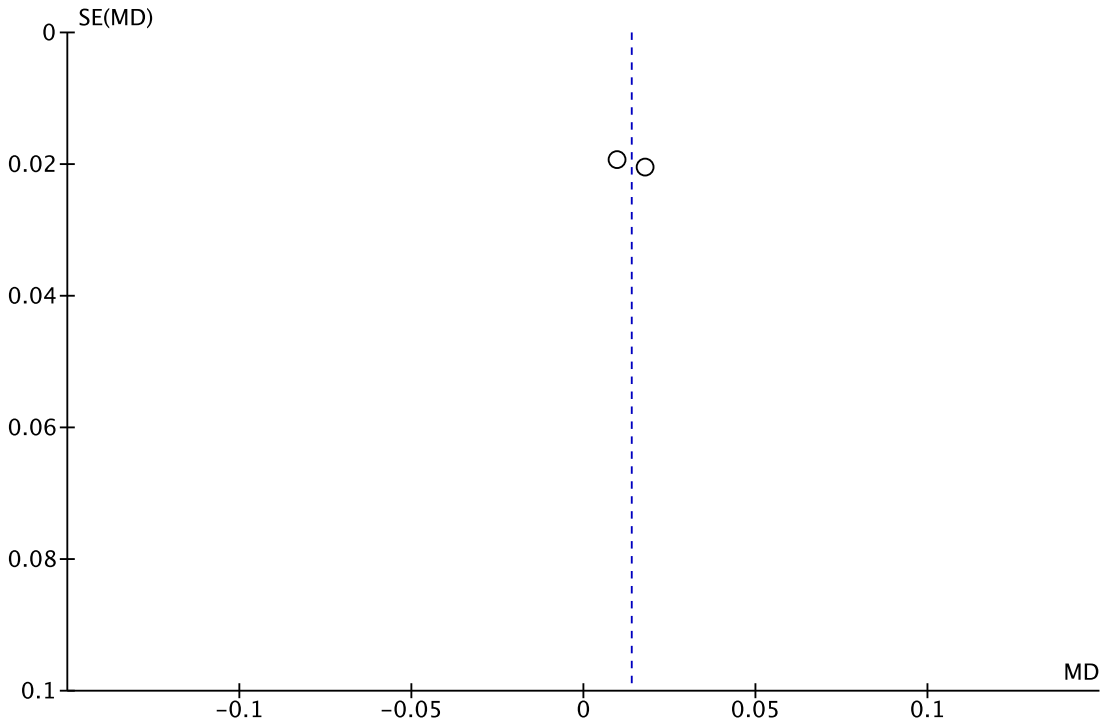
SE: standard error; MD: mean difference

S. Figure 28 Publication bias of handgrip strength



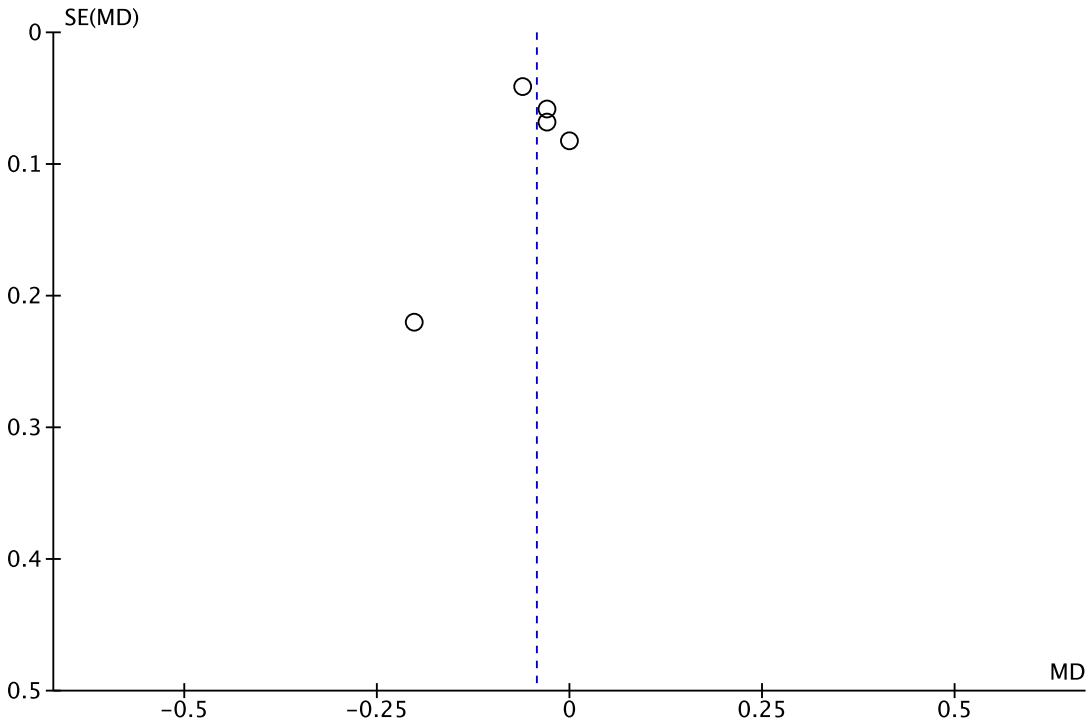
SE: standard error; MD: mean difference

S. Figure 29 Publication bias of bone mineral density



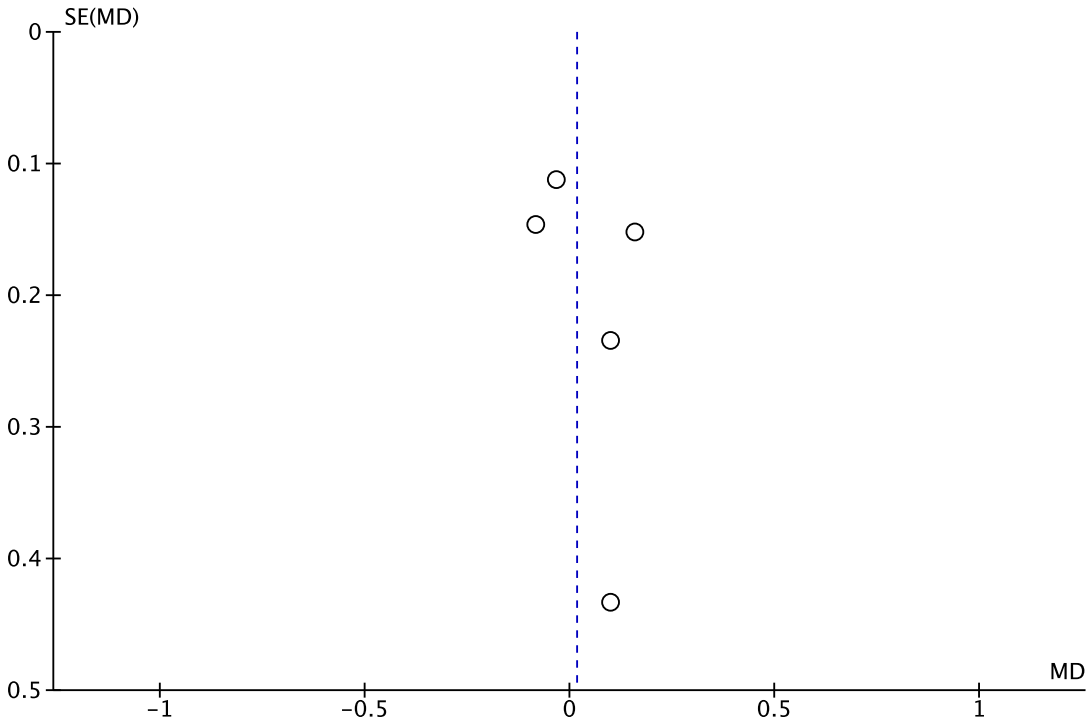
SE: standard error; MD: mean difference

S. Figure 30 Publication bias of high-density lipoprotein cholesterol



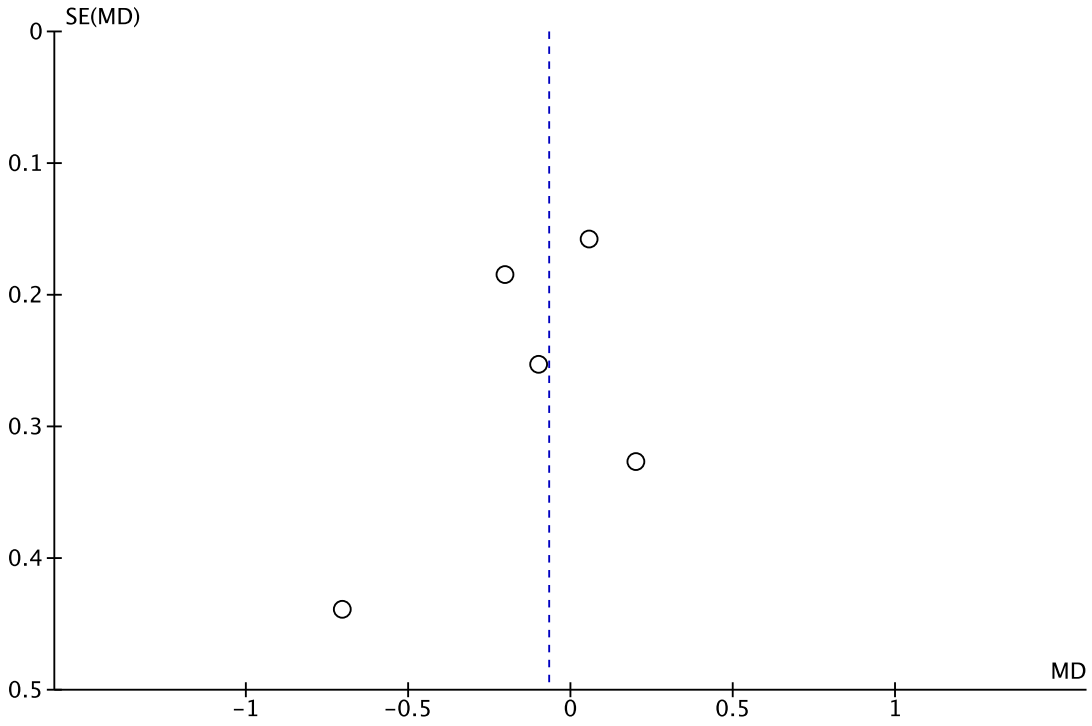
SE: standard error; MD: mean difference

S. Figure 31 Publication bias of low-density lipoprotein cholesterol



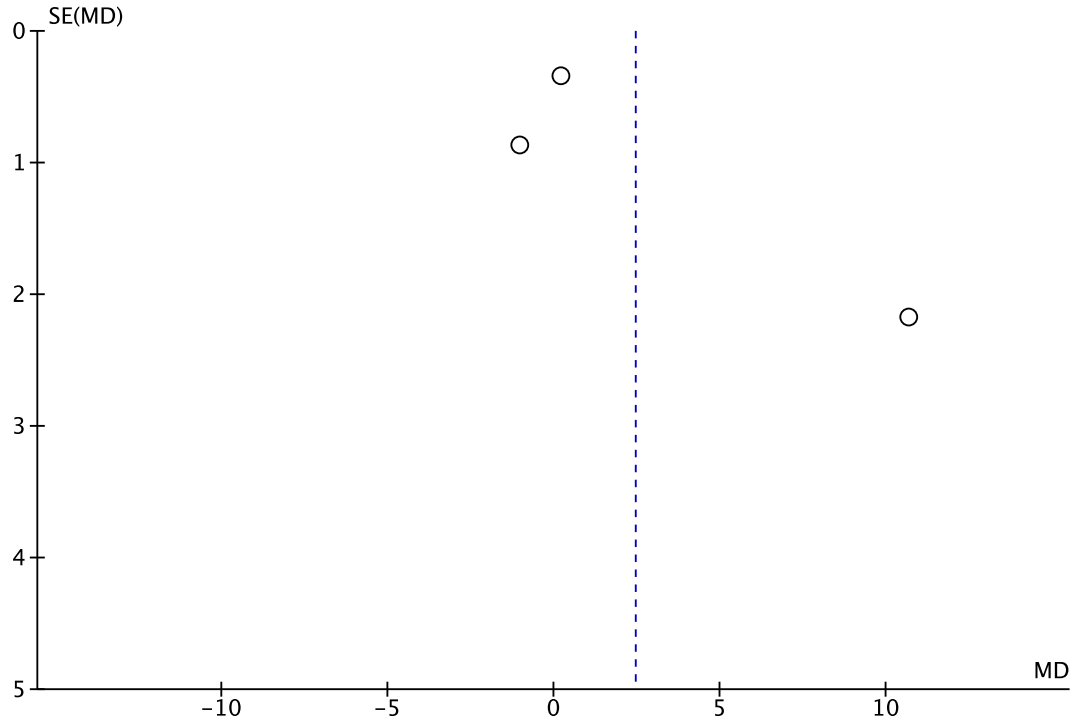
SE: standard error; MD: mean difference

S. Figure 32 Publication bias of triglyceride



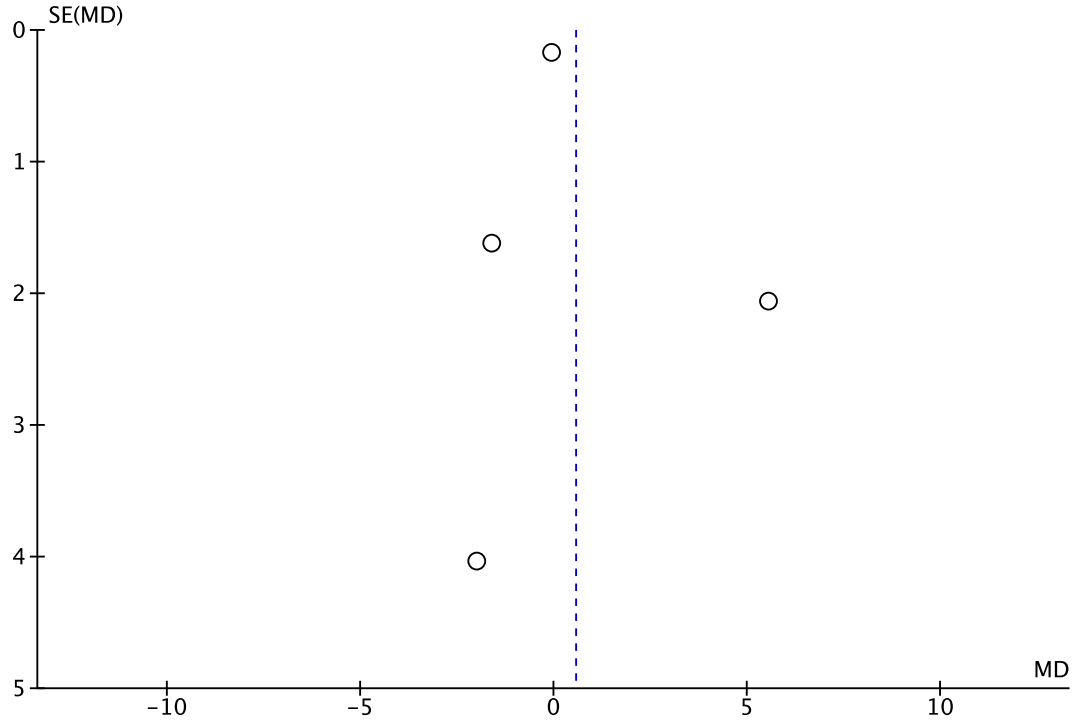
SE: standard error; MD: mean difference

S. Figure 33 Publication bias of homeostatic model assessment for insulin resistance



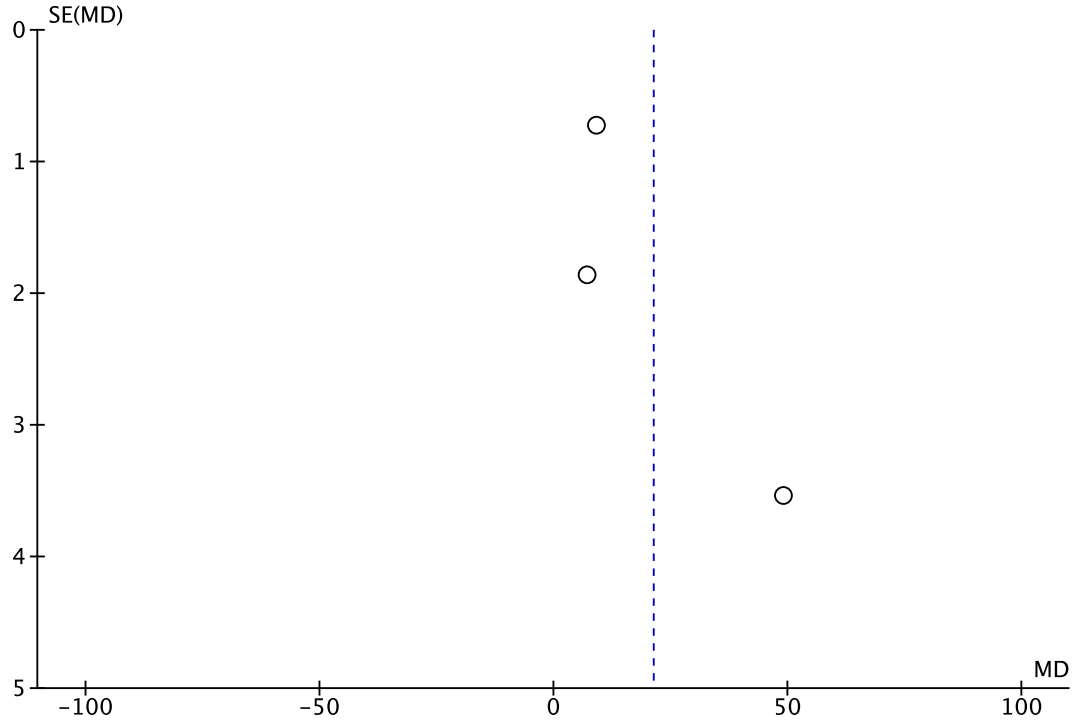
SE: standard error; MD: mean difference

S. Figure 34 Publication bias of sex hormone binding globulin



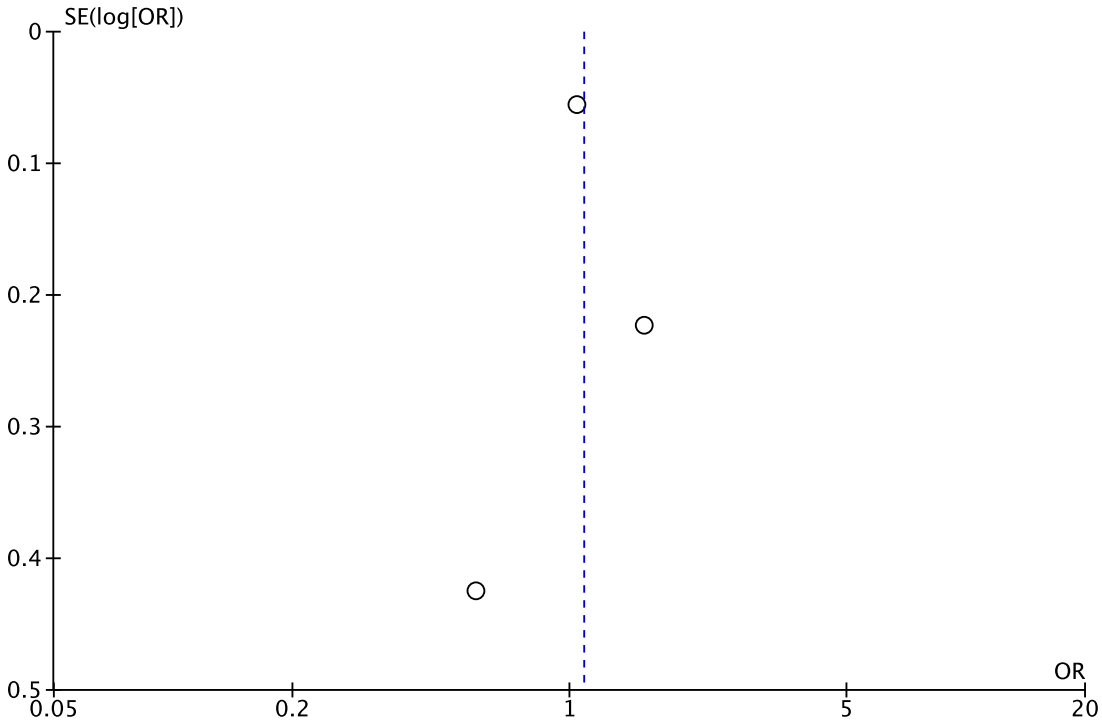
SE: standard error; MD: mean difference

S. Figure 35 Publication bias of change in estradiol



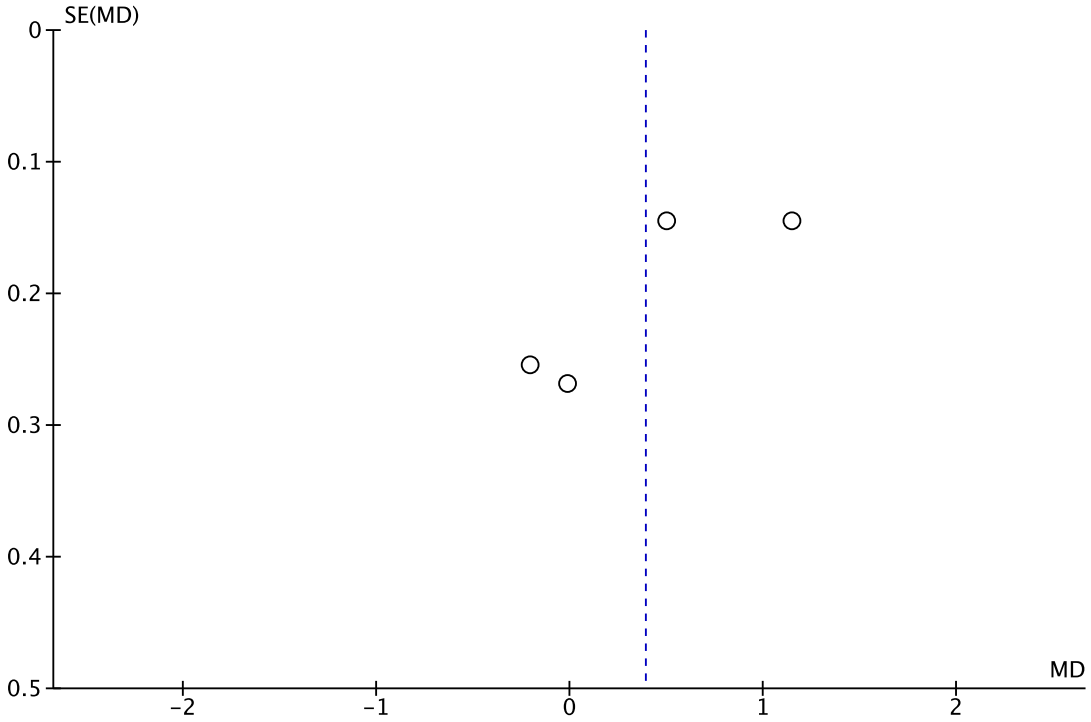
SE: standard error; MD: mean difference

S. Figure 36 Publication bias of adverse events



SE: standard error; MD: mean difference

S. Figure 37 Publication bias of prostate-specific antigen



SE: standard error; MD: mean difference