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EXTENDED DUAL ANTIPLATELET THERAPY IN MULTIVESSEL CORONARY DISEASE

Patients with multivessel coronary artery disease who undergo drug-eluting stent implantation face an ongoing ischemic risk even after 12 months of dual antiplatelet therapy (DAPT). The benefit of extending DAPT beyond this period remains uncertain. This study evaluated the efficacy and safety of extending DAPT with clopidogrel plus aspirin for an additional 12 months compared to aspirin monotherapy in patients with multivessel disease.

The subjects were 8,250 patients, 18-75 years of age with multivessel coronary artery disease who had no major ischemic or bleeding events while receiving DAPT for 12 months after implantation of a drug-eluting stent. The subjects were randomized 1:1 to receive extended DAPT or aspirin monotherapy. The primary efficacy endpoint was a composite of cardiovascular death, nonfatal myocardial infarction, or nonfatal stroke. The primary safety endpoint was clinically relevant or major bleeding (Bleeding Academic Research Consortium [BARC type ≥ 2]). The subjects were followed for a median of 34.3 months.

A primary efficacy endpoint event occurred in 222 patients in the extended DAPT group and 266 in the aspirin-monotherapy group (36-month cumulative incidence of 5.8% versus 6.8%; $p=0.03$). The benefit was driven primarily by a reduction in nonfatal myocardial infarction (Hazard Ratio 0.68). Clinically relevant or major bleeding was similar in both groups ($p=0.54$).

Conclusion: This study of patients with multivessel coronary artery disease who were stable 12 months after drug-eluting stent implantation, found that extending dual antiplatelet therapy with clopidogrel plus aspirin for an additional 12 months reduced ischemic events compared with aspirin alone.

Tian, J., et al. Extended Dual Antiplatelet Therapy for Multivessel Coronary Artery Disease. *N Engl J Med.* 2026, July 15; 395: 233-242.

E-CIGARETTE USE AFTER SMOKING CESSATION AND LUNG CANCER RISK

Electronic cigarettes are promoted as a less harmful alternative to conventional cigarettes, but their impact on lung cancer risk among former smokers has remained uncertain. This study evaluated the association between e-cigarette use after smoking cessation and the risk of lung cancer.

This large study included Korean adults with a conventional smoking history. The participants were classified as current smokers, short-term quitters, or long-term quitters. In addition to smoking status classification, baseline smoking exposure intensity (in pack years) and e-cigarette use were assessed. Daily e-cigarette use at baseline was defined as the exposure of interest and was used to classify participants as e-cigarette users after smoking cessation. The primary outcomes were lung cancer incidence and lung cancer-specific deaths.

Among the 4,524,895 participants followed for more than 24 million person-years, 35,887 incident lung cancers and 12,807 lung cancer-specific deaths occurred. Those who used e-cigarette after cessation had a significantly higher incidence of lung cancer (adjusted hazard ratio (aHR) 1.56) and lung cancer-specific death (aHR 2.00) compared to quitters without e-cigarettes ($p<0.001$). Associations were consistent across short- and long-term quitters.

Conclusion: This large population cohort study found that e-cigarette use after smoking cessation was associated with higher lung cancer incidence and mortality.

Kim, Y., et al. Electronic Cigarette Use after Smoking Cessation and Lung

Cancer Risk. *Nat Med.* 2026, July; 32(7): 2410-2419.

ULTRA-PROCESSED FOOD INTAKE LINKED TO POORER ATTENTION

Ultra-processed foods account for more than half of the total dietary energy consumed in high-income countries. Ultra-processed food consumption has been associated with over 30 adverse health outcomes, with emerging concerns about its impact on brain health and the risk of dementia. This study investigated the association between ultra-processed food intake and cognitive performance in middle-aged and older Australian adults.

Data were obtained from the Healthy Brain Project cross-sectional analysis of 2,192 dementia-free community-dwelling participants aged 40 to 70 years (mean 56.6 years). Diet was assessed with a validated 130-item food frequency questionnaire, and ultra-processed food intake was expressed as a percentage of total dietary grams. Cognitive performance was measured with the Cogstate Brief Battery, generating composite scores for attention and memory. APOE $\epsilon 4$ genotyping was available for a subgroup analysis of 1,858 participants. Associations were adjusted using linear regression models.

Ultra-processed foods contributed 21% of total dietary intake. In the adjusted model, each 10% increase in ultra-processed food intake was associated with a 0.05-point lower attention composite score ($p=0.011$), but not memory ($p=0.497$). The inverse association with attention was statistically significant only among APOE $\epsilon 4$ carriers ($p=0.009$).

Conclusion: This study found that the consumption of ultra processed foods is associated with poorer attention performance, although only significant among APOE $\epsilon 4$ carriers.

Cardoso, B., et al. Association of Ultra-Processed Food Intake with

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Cognitive Performance: A Cross-Sectional Analysis of Middle-Aged and Older Australian Adults. **Proc Nutr Soc.** 2026; 85: E104. doi: 10.1017/S0029665126103449.

BLOOD FLOW RESTRICTION TRAINING AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

Compared to traditional high-load resistance training, performed at 70 to 80% of the one repetition maximum (1RM), blood flow resistance (BFR) training can elicit comparable improvements in muscle mass and strength at only 20% to 30% of 1RM. This has been considered a potential solution for quadriceps atrophy after anterior cruciate ligament reconstruction (ACLR) when high loads are contraindicated. This study was designed to better understand whether postoperative BFR training, compared with conventional rehabilitation without BFR, can improve knee function.

This systematic review and meta-analysis included randomized controlled trials (RCTs) published from January of 2015 to August of 2025. Nine RCTs, involving 372 participants, were identified for inclusion. Outcome measures included Lysholm and International Knee Documentation Committee (IKDC) scores, quadriceps peak torque, visual analogue scale (VAS) pain scores, and range of motion.

Compared to rehabilitation alone, the addition of BFR training significantly improved Lysholm scores ($p=0.03$) and quadriceps peak torque ($p<0.00001$), as well as total work output ($p=0.06$). No significant differences were observed in IKDC scores, VAS pain scores, or range of motion.

Conclusion: This meta-analysis involving patients undergoing anterior cruciate ligament repair found that blood flow resistance training promotes early quadriceps strength recovery and selected functional improvements but shows limited effects on pain and joint mobility.

Hu, Y., et al. Blood Flow Restriction Training after Anterior Cruciate Ligament Reconstruction: A Systematic Review and Meta-Analysis of Randomized, Controlled Trials. **Orthop J Sports Med.** 2026, July; 14(7): doi: 10.1177/23259671261440196.

ACHILLES TENDON RUPTURE IN THE NBA: RETURN TO PLAY AND PERFORMANCE DECLINE

Achilles tendon rupture is a serious injury in elite basketball players. This study evaluated the return-to-play (RTP) rates, time to return, post-injury performance changes, and temporal trends in Achilles tendon ruptures among National Basketball Association (NBA) players.

The subjects were 22 NBA players with confirmed Achilles tendon ruptures between the 2000-2001 and 2024-2025 seasons. Return to play was defined as appearing in at least one official NBA game post-injury. Season-level performance metrics from each player's final full pre-injury season were compared with those from the first full season after returning.

Among 15 players with adequate follow-up, 13 (86.7%) returned to NBA competition after a mean of 10.8 months. Significant declines occurred in minutes per game ($p<0.001$), points per game ($p<0.001$), effective field goal percentage ($p=0.005$), total rebounds ($p=0.008$), assists ($p=0.002$), and games started ($p=0.003$). When normalized per 48-minutes of play, scoring remained reduced ($p=0.004$), while rebounding and defensive metrics were preserved.

Conclusion: This study of professional basketball players with Achilles tendon ruptures found that most players returned to professional play after the injury within approximately 11 months, but with significant reductions in playing time, scoring output, offensive efficiency, and starting roles.

Maman, D., et al. Achilles Tendon Rupture in the NBA: Return to Play, Performance Decline and Temporal Trends (2000 to 2025). **Orthop J Sports Med.** 2026, July; 14(7): 23259671261461403.

OUTCOMES OF SURGICAL TREATMENT OF ISOLATED CARTILAGE LESIONS DURING ACL RECONSTRUCTION

Concomitant isolated cartilage lesions are commonly encountered during anterior cruciate ligament reconstruction (ACLR). However, their management remains controversial. This study evaluated structural progression and clinical outcomes of isolated cartilage lesions, comparing

those treated and untreated during ACLR.

The subjects included 3,748 patients with primary and revision ACLR, identified through the Swedish Knee Ligament Registry (2005 to 2024). A 1:1 matched analysis compared 78 patients who underwent surgical cartilage treatment (debridement or microfracture) with 78 untreated patients. Structural evolution was assessed at primary and revision ACLR using arthroscopic International Cartilage Repair Society (ICRS) grade and lesion size (<2 or ≥ 2 cm²). Lesions were classified as stable, progressed, or regressed.

Treated lesions showed significantly higher stability at revision ACLR (21.8% versus 5.1%; $p=0.005$). For low-grade lesions (ICRS I–II), stability was higher (27.1% versus 5.1%; $p=0.002$) and progression lower (15.3% versus 32.2%; $p=0.050$) in the treated group. No differences were observed in high-grade lesions. No differences were observed in two-year revision free survival or patient reported outcome measures.

Conclusion: This study of patients with isolated cartilage lesions identified during anterior cruciate ligament reconstruction found that surgical treatment of these lesions resulted in greater structural stability of these lesions, but without improved short-term clinical outcomes.

Romandini, I., et al. Surgical Treatment of Isolated Cartilage Lesions during Anterior Cruciate Ligament Reconstruction Was Associated with Greater Lesion Stability but Similar Two-Year Clinical Outcomes: A Registry-Based, Matched Pair, Second-Look Study. *J Exp Orthop*. 2026, Jun 30;13(3):e70817.

PROGRESSIVE CARTILAGE DEGENERATION AFTER ACL RECONSTRUCTION

Anterior cruciate ligament (ACL) injuries are strongly linked to chondral lesions and elevated long-term risk of knee osteoarthritis (OA), even after reconstruction. This study evaluated the progression of cartilage damage after ACL reconstruction and identified risk factors for degeneration.

This retrospective cohort study analyzed prospectively collected data from the Swedish Knee Ligament Registry. The subjects were patients undergoing primary and revision

ACLR from 2005 to 2023. After exclusions for multiligament injuries or missing data, 2,845 patients were included in the analysis. Intraoperative cartilage status (location, size, and ICRS grade) was compared between procedures. Multivariate logistic regression identified independent risk factors.

The median age at the primary surgery was 20 years and the median time to revision was 2.4 years. The cartilage lesion prevalence increased from an average of 19% at primary ACLR to 36% at revision ($p<0.001$). Larger lesions and higher-grade damage (ICRS grade of three to four) became more common. The four independent predictors of cartilage damage at revision were chondral lesion at primary surgery ($p<0.001$), meniscal lesion at primary surgery ($p<0.001$), time from initial injury to revision ($p<0.001$), and older age at revision ($p<0.001$).

Conclusion: This study of patients undergoing both primary and secondary repair of the anterior cruciate ligament found that significant progression of cartilage degeneration occurred between primary and revision surgery.

Agostinone, P., et al. Progressive Cartilage Degeneration after Anterior Cruciate Ligament Reconstruction: Longitudinal Evidence from the Swedish Knee Ligament Registry. *Am J Sports Med*. 2026, July; 54(8): 1894-1902.

NON-HDL CHOLESTEROL AND APOLIPOPROTEIN B IN ATHEROSCLEROTIC CARDIOVASCULAR DISEASE

Non-high-density-lipoprotein cholesterol (non-HDL) and apolipoprotein B (apoB) are better markers of atherosclerotic cardiovascular disease (ASCVD) risk than low-density-lipoprotein cholesterol. Whether non-HDL or apoB is superior to the other is less clear. This study was designed to determine whether non-HDL provides additional information on ASCVD risk beyond that of apoB and vice versa.

This cohort study analyzed 94,398 participants from the Copenhagen General Population Study who were not taking lipid-lowering medications at baseline (2003-2015 recruitment). Non-HDL and apoB levels were measured with the median value for

the entire group compared to each individual. Values below this median were considered concordant, and values above this median were considered discordant. This produced the four groups: concordant low (both below median), discordant high apoB (non-HDL $<$ median and apoB $>$ median), discordant high non-HDL (non-HDL $>$ median and apoB $<$ median), and concordant high (both above median).

In these 94,398 individuals with 2,462 MI and 5,723 ASCVD events, 1-SD increases in non-HDL and apoB were linked to similar ASCVD risk elevation (Hazard Ratio [HR] 1.16 and HR 1.14, respectively). Discordance analyses showed elevated risk for discordant high apoB (ASCVD HR 1.14), discordant high non-HDL (HR 1.21), and highest for concordant high (HR 1.36) compared to concordant low. These patterns held for MI.

Conclusion: Using data from the Copenhagen General Population Study this study demonstrated that non-HDL cholesterol and apoB each independently predict the risk of atherosclerotic cardiovascular disease.

Johannesen, C., et al. Non-HDL Cholesterol and Apolipoprotein B Measures and Risk of Atherosclerotic Cardiovascular Disease. *JAMA Cardiol*. 2026, July;11(7):669-673.

MODIFIABLE RISK FACTORS AND HEART DISEASE MORTALITY

Ischemic heart disease (IHD) remains the leading cause of death in the United States and is predominantly driven by modifiable metabolic, behavioral, and environmental risk factors. This study was designed to estimate the burden of IHD death attributable to 12 risk factors in the US from 1990 to 2023 using Global Burden of Disease (GBD) methods.

To examine IHD and associated risk factor trends, the authors analyzed death records and all available data on population risk exposure and their causal associations with IHD as part of the GBD 2023 study. Population-attributable fractions were calculated for metabolic (high systolic blood pressure [SBP], low density lipoprotein cholesterol [LDL-C], body mass index [BMI], fasting plasma glucose [FPG], and kidney dysfunction), behavioral (diet, tobacco, physical activity, alcohol), and environmental

(particulate matter, temperature, lead) risks.

In 2023 an estimated 473,000 IHD deaths occurred nationally. High SBP, dietary risks, and high LDL-C accounted for 47.2%, 38.6%, and 28.5% of deaths, respectively (these total >100% as the factors contain overlapping attribution). High FPG-attributable burden rose 38.8% and high BMI 54.5% since 1990, while smoking fell 33.3% and particulate-matter pollution fell by 74.9%. Overall, 88.7% of IHD deaths were attributable to modifiable risks.

Conclusion: This study found that nearly nine in ten US ischemic heart disease deaths remain attributable to modifiable risks, with high BMI and high FPG showing the largest relative increases since 1990.

Benziger, C., et al. Modifiable Risk Factors and Attributable Ischemic Heart Disease Mortality in US States, 1990-2023. *JAMA Cardiol.* 2026, July; doi:10.1001/jamacardio.2026.2435.

PREVALENCE OF LDL-C ABOVE GUIDELINE GOALS

Low-density lipoprotein cholesterol (LDL-C) is a major driver of atherosclerotic cardiovascular disease (ASCVD). The new 2026 ACC/AHA dyslipidemia management guideline introduced Predicting Risk of Cardiovascular Disease EVENTS (PREVENT)-based risk assessment and risk-based LDL-C treatment goals. The new recommendations are for LDL-C levels <160 mg/dL for low-risk adults, <100 mg/dL for borderline/intermediate-risk adults, <70 mg/dL for high-risk adults, and < 70 mg/dL for adults with ASCVD not meeting very high-risk criteria, and < 55 mg/dL for adults with ASCVD meeting very high-risk criteria. This study was designed to estimate the proportion of U.S. adults whose LDL-C levels exceed these goals.

This cross-sectional analysis included 2,313 adults, aged 30 to 79 years, from NHANES 2021–2023 (representing 177.7 million US adults). For each subject, a PREVENT-ASCVD risk calculation was performed. Using this calculation, LDL-C recommendations were determined.

The proportion of adults not meeting the LDL-C goals was 32.2%. The proportion above the LDL-C goal was

9.9% among the low-risk adults, 63.6% among borderline/intermediate-risk adults, and 82.7% among high-risk adults. Among adults with established ASCVD, 79.6% had LDL-C levels above the recommended level. Among all adults with LDL-C above their recommended levels, 76.1% were not receiving lipid lowering therapies.

Conclusion: Using the new American College of Cardiology/American Heart Association guidelines this study found that 32.2% of all adults had LDL-C levels above the recommended levels, and of these, 79.6% were not receiving lipid lowering therapy.

Abohashem, S., et al. Prevalence of LDL-C above 2026 Dyslipidemia Guideline Goals among U.S. Adults. *JAMA.* Published online July 20, 2026. doi:10.1001/jama.2026.10529.

CARDIOVASCULAR RISK RECLASSIFICATION WITH THE 2026 DYSLIPIDEMIA GUIDELINE

Dyslipidemia is a leading modifiable risk factor for atherosclerotic cardiovascular disease (ASCVD). In 2026, the American Heart Association (AHA) and the American College of Cardiology (ACC) released a new clinical practice guideline on the management of dyslipidemia. These changes included the adoption of the PREVENT-ASCVD equations to estimate both 10- and 30-year risk in individuals aged 30 to 59 years. The 2026 guideline includes five major changes to recommendations for primary prevention of ASCVD and emphasizes that clinicians should “treat dyslipidemia earlier”. This study assessed the impact of these new guidelines.

This cross-sectional study used nationally representative data from 24,403 adults, aged 40 to 79 years, in NHANES cycles 1999 to March of 2020 (representing 98,492,883 U.S. adults). The ten-year ASCVD risk was calculated using the new recommendations. Eligibility for statins was compared between the previous recommendations and the new guidelines.

In total, 56.6% of adults aged 30 to 79 years were found to be eligible for statins for primary prevention. Risk categories were altered when changing from the old recommendations to the new. Low-risk prevalence remained similar (50.4% versus 50.6%), borderline risk increased (12.6%

versus 18.4%), and both intermediate risk (25.3% versus 20.1%) and high risk (11.8% versus 10.9%) decreased. The new populations eligible for statin therapy are predominantly younger and lower risk than populations recommended statin therapy by the preceding 2018 guidelines.

Conclusion: This study used data from the NHANES study to apply the new and American Heart Association/American College of Cardiology, lipid guidelines to determine the risk for atherosclerotic cardiovascular disease.

Peng, A., et al. Cardiovascular Risk Reclassification with the 2026 Dyslipidemia Guideline. *JAMA.* Published online July 20, 2026. doi:10.1001/jama.2026.11152

GLOBAL DIVERGENCE IN HYPERTENSION STANDARDS

The optimal diagnostic threshold for hypertension remains uncertain, with U.S. guidelines recommending ≤130/80 mmHg, while European and Chinese guidelines recommend ≤140/90 mmHg. This study compared the predictive performance of these two recommendations.

Data were obtained from 10,120 participants 45 years of age or older, all without prior cardiovascular disease or antihypertensive medication use. The subjects were participants in the China Health and Retirement Longitudinal Study (CHARLS), the U.S. Health and Retirement Study (HRS), and the English Longitudinal Study of Ageing (ELSA). Multivariable Cox proportional hazards models were used to assess associations with cardiovascular disease (a composite of heart disease and stroke).

Using the US guidelines, 47.1% of the participants were classified as hypertensive. Using the European/Chinese guidelines 24.5% were classified as hypertensive. In fully adjusted models, hypertension by ACC/AHA criteria was associated with incident cardiovascular disease (HR 1.26), slightly stronger than when using the European/Chinese definition (HR 1.20). Blood pressure as a continuous variable showed a significant nonlinear dose-response relationship with cardiovascular risk, increasing from approximately 130 mmHg systolic.

Conclusion: The lower American hypertension threshold demonstrates a marginally stronger statistical

association with cardiovascular events, though this statistical superiority did not translate into a meaningful improvement in clinical predictive utility.

Pan, Y., et al. Global Divergence in Hypertension Standards: Cardiovascular Outcomes Under U.S. ($\geq 130/80$) versus European/Chinese ($\geq 140/90$) Diagnostic Thresholds in HRS, CHARLS, and ELSA. *Am J Prev Med*. 2026, May 27; 71(4): 108436.

PERIOPERATIVE REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION AND COGNITIVE DYSFUNCTION AFTER TKA

Postoperative cognitive dysfunction (POCD) is a major complication in elderly patients undergoing total knee arthroplasty (TKA). Several studies have linked POCD to neuroinflammation. As repetitive transcranial magnetic stimulation (rTMS) has been shown to decreased levels of inflammatory cytokines IL-1 β , IL-6, and TNF- α , this study evaluated the effectiveness of perioperative rTMS in reducing POCD in elderly patients undergoing TKA.

The subjects included 60 elderly patients (≥ 60 years) scheduled for primary elective TKA, randomly assigned to receive active-rTMS or sham-rTMS ($n=30$ each). The active group received 10 Hz rTMS targeting the dorsolateral prefrontal cortex for five consecutive preoperative days. The sham group underwent identical procedures with the coil positioned perpendicular to the skull. Cognitive function was assessed with the Montreal Cognitive Assessment (MoCA) on preoperative days six and one and postoperative days three and seven. Serum inflammatory biomarkers (IL-1 β , IL-6, TNF- α , and HMGB1) were measured at the same times.

The active-rTMS group earned significantly higher MoCA scores on postoperative days three ($p=0.001$) and seven ($p<0.001$) compared with the sham-rTMS group. Cumulative POCD incidence within seven days was lower in the active group (two versus 10 cases, $p=0.01$). Postoperative levels of IL-1 β , IL-6, TNF- α , and HMGB1 were significantly reduced in the active-rTMS group ($p\leq 0.002$ for all comparisons).

Conclusion: This study of elderly patients undergoing total knee arthroplasty found that perioperative

repetitive transcranial magnetic stimulation could reduce post-operative inflammation and cognitive decline.

Huang, D., et al. Perioperative Repetitive Transcranial Magnetic Stimulation Reduces Post-Operative Cognitive Dysfunction and Inflammation in Elderly Patients Undergoing Total Knee Arthroplasty: A Randomized, Controlled Trial. *J Arthroplasty*. 2026 Apr;41(4):1107-1115.

PERIPHERAL NERVE BLOCKS AND CARDIOVASCULAR OUTCOMES IN OLDER ADULTS WITH HIP FRACTURES

Hip fractures in older adults are associated with significant perioperative cardiovascular complications. This is thought to be, in part, due to the cumulative physiologic stresses from both the fracture and subsequent surgical repair. Attenuating the sympathetic stress response has therefore become an important focus for improving care. This study was designed to evaluate the association between peripheral nerve blocks and cardiac events in older adults undergoing hip fracture surgery.

This observational cohort study analyzed data from the Premier Healthcare Database for patients aged 65 years and older who underwent surgical fixation for proximal femur fractures. Patients receiving peripheral nerve blocks were identified using CPT codes and pharmacy records for local anesthetics. Propensity score matching was performed in a 1:1 ratio to balance demographics, comorbidities, and hospital characteristics, yielding 3,299 patients in each group. The primary outcome was myocardial infarction (MI) during the index hospitalization.

In the matched cohort myocardial infarction occurred in 0.6% of the nerve block group and in 0.9% of the controls (RR 0.64, $p = 0.12$). Peripheral nerve blocks were associated with significantly lower rates of acute congestive heart failure ($p < 0.001$) and cardiac arrest ($p = 0.03$). Additionally, 90-day readmission was reduced in the nerve block group ($p = 0.003$).

Conclusion: This study found that peripheral nerve blocks were associated with reduced acute congestive heart failure, cardiac arrest, and 90-day readmission in older adults undergoing hip fracture surgery.

Torrie, A., et al. Association Between Peripheral Nerve Blocks and Cardiovascular Outcomes in Older Adults with Hip Fractures. *JBJS Open Access*. 2026, July;11(3): e26.00173.

FLAVONOID QUANTITY AND DIVERSITY LOWER MORTALITY AND CHRONIC DISEASE

Flavonoids can be found in foods such as blueberries, blackberries, dark chocolate, green tea and apples. Higher flavonoid intake has been consistently linked to lower mortality and chronic disease risk, yet the independent role of flavonoids is not well understood. This study was designed to examine the independent associations of dietary flavonoid intake quantity and diversity with all-cause mortality and the incidence of chronic disease.

This prospective cohort study included 124,805 UK Biobank participants, with an average age of 60.2 years followed for up to 11.8 years. Flavonoid intake was estimated from repeated 24-hour dietary assessments. Diversity was calculated using a novel method accounting for both variety and distribution of consumption. Associations were calculated with all-cause mortality and incidence of cardiovascular disease (CVD), type 2 diabetes, total cancer, respiratory disease, and neurodegenerative disease.

In the 124,805 participants, both higher quantity and greater diversity of flavonoid intake were independently associated with significantly lower risks. Comparing the highest (Quintile 5) to the lowest (Quintile 1) intakes, hazard ratios (HR) for quantity and diversity respectively were 0.84 and 0.86 for all-cause mortality, 0.88 and 0.90 for CVD, 0.75 and 0.80 for type 2 diabetes, 0.92 and 0.92 for cancer, and 0.91 and 0.92 for respiratory disease (all $p < 0.05$). Only quantity was associated with lower neurodegenerative disease risk (HR 0.80).

Conclusion: Consuming both a higher quantity and wider diversity of dietary flavonoids is associated with greater reductions in mortality and chronic disease risk than either component alone.

Parmenter, B., et al. Both The Quantity and Diversity of Dietary Flavonoid Intake Contribute to Lower Mortality and Chronic Disease Risk in The UK Biobank Cohort Study. *Proc Nutr*

MEAT CHOICES AT DINNER AS CARDIOVASCULAR RISK FACTORS

Previous studies have shown the benefits of consuming a Mediterranean-style healthy dietary pattern (MED-HDP). However, limited research has focused on the associations between the relative amounts of poultry, red meat, and seafood self-chosen by participants who consume a MED-HDP diet. This study of adults consuming a MED-HDP diet assessed the effects of meat choice on changes in cardiovascular risk factors.

Fifty-two middle-aged and older adults with a mean age of 49 years and features of metabolic syndrome completed a 12-week trial. All engaged in a MED-HDP diet. At dinner, those participants were asked to choose protocol-approved, unprocessed protein sources, including chicken breast, lean beef, or seafood. Multiple linear regression was used to assess associations between the proportion of dinner meals containing each protein source and changes in systolic blood pressure (SBP), diastolic blood pressure (DBP), and serum lipids/lipoproteins, with red meat (beef) serving as the reference category.

Consuming the MED-HDP reduced SBP, DBP, total cholesterol, and triglycerides. More frequent consumption of chicken at dinner, versus beef or seafood, was associated with greater reductions in SBP ($p=0.034$ versus beef; $p=0.047$ versus seafood) and DBP ($p=0.021$ versus beef; $p=0.043$ versus seafood). The frequency of consumption of chicken, beef, or seafood intake was not associated with changes in total cholesterol, triglycerides, HDL, or LDL cholesterol.

Conclusion: This study found that a controlled Mediterranean-style dietary pattern improved multiple cardiovascular risk factors and that, compared to beef, more frequent consumption of unprocessed chicken at dinner was associated with greater blood pressure reductions.

Davis, E., et al. Observational Assessments of Chicken, Beef, and Seafood Proportions with a Mediterranean-Style Healthy Dietary Pattern and Cardiovascular Risk Factor Changes:

Post Hoc Analysis of a Controlled Feeding Trial. *Nutrients*. 2026, Jun 24;18(13):2062.

PHYSICAL ACTIVITY AND DEMENTIA RISK ACCORDING TO MENOPAUSAL STATUS

The reduction in estrogen levels following menopause is strongly linked to cognitive decline. As regular physical activity has been consistently linked to lower rates of both cognitive and physical decline, this study compared the association between physical activity and dementia risk in pre- and post-menopausal females.

The Korean National Health Insurance Service database was used to identify 2,163,842 females, 40 years of age or older, stratified into premenopausal ($n=903,959$) and postmenopausal ($n=1,259,883$) groups. Physical activity was assessed by self-report. The primary outcome was the incidence rate (IR) of dementia, defined using a combination of ICD-10 diagnostic codes and prescriptions for anti-dementia medications.

At a mean eight year follow up, all-cause dementia was identified in 2,343 of the premenopausal group (IR per 1,000 person years, 0.312) and 110,123 in the postmenopausal group (IR 10.946). The incidence of dementia due to Alzheimer's Disease (AD) was greater in the post-menopausal (IR 9.15) than in the pre-menopausal group (IR 0.23). Dementia due to vascular disease (VaD) was also greater in the post-menopausal (IR 1.122) than in the pre-menopausal group (IR 0.064). In premenopausal females, regular physical activity was associated with lower risk of all-cause dementia [adjusted Hazard Ratio (aHR) 0.830] and AD (aHR 0.814), but not VaD. In postmenopausal females, regular physical activity, even light physical activity, was associated with significantly reduced risks of all-cause dementia.

Conclusion: Regular physical activity is associated with lower dementia risk in both pre- and post-menopausal females; even light activity such as walking appears protective in post-menopausal women.

Lim, E., et al. Role of Physical Activity in Protecting against Dementia According to Menopausal Status. *J Clin Neurol*. 2026, Jun 29;22(4):427–436.

SACROILIAC JOINT FUSION AND RISK OF SUBSEQUENT TOTAL HIP ARTHROPLASTY

Patients with hip osteoarthritis (OA) who undergo sacroiliac (SI) joint fusion may experience accelerated hip degeneration due to altered lumbopelvic biomechanics and load redistribution. This retrospective cohort study was designed to determine whether patients with pre-existing hip OA who have undergone SI joint fusion have a higher risk of subsequent total hip arthroplasty (THA) compared with matched controls with hip OA alone.

Using the PearlDiver Mariner database, 4,383 patients with hip OA who underwent SI joint fusion were propensity-matched 1:1 to controls with hip OA alone. Univariable and multivariable logistic regression and Kaplan-Meier survival analysis assessed the likelihood of a subsequent THA.

The data determined that SI joint fusion was independently associated with significantly higher odds of subsequent THA (OR 2.18, $p < 0.001$). The ten-year THA-free survival was 94.7% in the SI fusion group and 96.8% in the control group ($p = 0.007$).

Conclusion: This study of patients with OA found that those who underwent an SI fusion had significantly higher likelihood of requiring subsequent total hip arthroplasty.

Issani, A., et al. Risk of Total Hip Arthroplasty after Sacroiliac Joint Fusion Surgery: A Nationwide Study. *Global Spine J*. 2026, July 2; doi: 10.1177/21925682261463491.

LONG-TERM OUTCOMES OF HIP ARTHROSCOPY IN WORKERS' COMPENSATION PATIENTS

Workers' Compensation (WC) patients have historically demonstrated inferior outcomes after orthopedic procedures compared with non-WC patients. This study of patients undergoing primary hip arthroscopy (THA) compared the clinical outcomes of WC patients to non-WC patients.

The subjects were patients undergoing primary THA for labral tear/femoroacetabular impingement syndrome (FAIS) between 2012 and 2015 with ≥ 10 -year follow-up. The WC patients ($n=37$) were matched 1:3 to non-WC patients ($n=108$). Patient reported outcomes (PROs) included Hip Outcome

Score-Activities of Daily Living (HOS-ADL), Hip Outcome Score-Sport-Specific (HOS-SS), Modified Harris Hip Score (mHHS), the International Hip Outcome Tool-12 (iHOT-12), Visual Analog Score (VAS) for pain (VAS-Pain), and VAS-Satisfaction.

Both groups showed significant improvement in all patient reported outcomes (PROs) from baseline to ten years ($p < 0.001$). The WC patients had significantly lower preoperative HOS-ADL and mHHS scores and inferior scores at two and five years for several PROs. At ten years, no significant between-group differences remained in any PRO ($p = 0.057$). Reoperation-free survivorship was similar ($p = 0.383$), with overall reoperation rates of 10.8% for the WC group and 16.7% for the non-WC group. In the WC group, 91.7% returned to work at a mean of 8.7 months (72.2% to full duty).

Conclusion: This study found that, ten years after hip arthroplasty, workers' compensation patients achieved durable, high-quality outcomes with over 91% returning to work.

Sparks, C., Long-Term Outcomes of Hip Arthroscopy in Workers' Compensation Patients Compared to Non-Workers' Compensation Patients: A Propensity-Matched Study at Minimum 10-Year Follow-Up. *Am J Sports Med.* 2026, Jul;54(9):2194-2203.

INTENSIVE REHABILITATION AND BILATERAL ANODAL tDCS FOR POST-STROKE DYSPHAGIA

Oropharyngeal dysphagia is a common, disabling post-stroke complication. Experimental studies have demonstrated that anodal transcranial direct current stimulation (tDCS) over the swallowing motor cortex can enhance cortico-pharyngeal excitability and promote functional changes in bilateral swallowing networks, providing the rationale for clinical trials. This study assessed whether bilateral anodal tDCS combined with intensive speech-language therapy (SLT), could improve swallowing outcomes in patients with post-stroke dysphagia.

This trial enrolled 48 patients with oropharyngeal dysphagia. Participants received intensive SLT, 40 minutes daily for six weeks, plus bilateral anodal tDCS, 20 minutes daily, five days/week for two weeks, or sham

stimulation. The active tDCS involved two anodal electrodes placed bilaterally over the orofacial swallowing cortices, centered 3.5 cm lateral and 1 cm anterior to the vertex, with the long axis parallel to the central sulcus. Each cathodal electrode was placed supraorbitally, contralateral to its anode. Stimulation intensity was 1.5 mA for 20 min per session. Outcomes included the Dysphagia Outcome and Severity Scale (DOSS), the Penetration-Aspiration Scale (PAS), the Mann Assessment of Swallowing Ability (MASA), and the Swallowing Quality of Life Questionnaire (SWAL-QOL). Forty-six patients completed the protocol (24 active and 22 sham).

Both groups showed significant improvement across all outcomes ($p < 0.001$), with no significant differences between groups on the DOSS, PAS, MASA, or SWAL-QOL. Exploratory analyses revealed greater MASA gains with active tDCS in infratentorial strokes ($p = 0.04$). Greater baseline dysphagia severity correlated with larger functional gains.

Conclusion: Intensive speech-language therapy drives meaningful recovery in post-stroke dysphagia, with exploratory evidence suggesting additional benefit from bilateral anodal tDCS in infratentorial lesions.

Cosentino, G., et al. Intensive Rehabilitation with Adjunctive Bilateral Anodal tDCS In Post-Stroke Dysphagia: A Multicenter, Randomized, Controlled Trial. *Eur J Neurol.* 2026, July; 33(7): e70686.

PULMONARY REHABILITATION FOR POST-TUBERCULOSIS LUNG DISEASE

Post-tuberculosis lung disease (PTLD) causes significant disability through persistent respiratory symptoms, reduced exercise capacity, and impaired health-related quality of life. This study evaluated the clinical effectiveness and cost-effectiveness of a six-week pulmonary rehabilitation program for improving exercise capacity and health-related quality of life in adults with PTLD.

This single-center randomized controlled trial with blinded outcome assessments enrolled 114 adults with PTLD in Kampala, Uganda. The subjects were randomized (1:1) to a six-week pulmonary rehabilitation program (twice-weekly supervised 2-hour group sessions with individualized

endurance and strength training plus education) or usual care. The primary outcome was the change in Incremental Shuttle Walk Test distance, analyzed with a generalized linear mixed model (intention-to-treat).

Among the 114 randomized participants (mean age 43.3 years; 57% male), the pulmonary rehabilitation group showed a significantly greater improvement in Incremental Shuttle Walk Test distance than usual care (between-group difference 54.36 m; $p = 0.004$). Significant benefits also occurred for the COPD Assessment Test score ($p = 0.015$) and Clinical COPD Questionnaire total score ($p = 0.004$). The program cost \$6,468 per quality-adjusted life-year gained.

Conclusion: This study of adults with post tuberculosis lung disease found that a six-week pulmonary rehabilitation program was clinically effective for improving exercise capacity and health-related quality of life.

Katagira, W., et al. Clinical Effectiveness and Cost-Effectiveness of Pulmonary Rehabilitation for People in Uganda with Post-TB Lung Disease: A Randomized Controlled Trial. *Chest.* 2026, July;170(1):54-65.

EFFICACY AND SAFETY OF TIROFIBAN AFTER SUCCESSFUL ENDOVASCULAR REPERFUSION IN ACUTE ISCHEMIC STROKE

Tirofiban is a nonpeptide glycoprotein IIb/IIIa receptor antagonist that reversibly inhibits platelet aggregation. As patients with acute ischemic stroke frequently experience persistent disability, despite successful endovascular thrombectomy, this study explored the effect of tirofiban on the functional outcomes of stroke survivors.

This trial was conducted at 82 hospitals in China including 1,380 patients who achieved successful reperfusion after thrombectomy for anterior-circulation large-vessel occlusion. The participants were randomized 1:1 to receive a placebo or tirofiban (intra-arterial 5 μ g/kg bolus followed by 0.1 /kg/min intravenous infusion for 24 hours). The primary outcome variable was functional independence (a modified Rankin Scale [mRS] score of zero to two) at 90 days.

Functional independence at 90 days was achieved in 340 of 689 (49%) of the tirofiban patients and 299 of 691 (43%) of the placebo patients (adjusted risk ratio (aRR) 1.15;

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$p=0.0092$). Symptomatic intracranial hemorrhage within 48 hours occurred in 12% of the tirofiban group and 9% of the placebo group (aRR 1.24; $p=0.17$). Rates of any intracranial hemorrhage and 90-day mortality were similar between groups.

Conclusion: This study of patients who underwent successful thrombectomies after ischemic strokes found that treatment with tirofiban increased functional independence at 90 days without significantly increasing symptomatic intracranial hemorrhage.

Huang, H., et al. Efficacy and Safety of Tirofiban after Successful Endovascular Reperfusion in Acute Ischaemic Stroke (ATTRACTION) in China: A Multicentre, Double-blind, Randomised Controlled Trial. *Lancet*. 2026; 408(10551): 263-274.

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