

Coronary Care Update

September 2023



Welcome to the latest copy of the Coronary Care Update. The aim of this publication is to bring together a range of recently published research and guidance that will help you make evidence-based decisions.

Accessing Articles

The following abstracts are taken from a selection of recently published articles.

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Feedback and requests for additional evidence searches

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Please contact Holly if you would like more information, or further evidence searches: holly.cook3@nhs.net.

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NICE Guidance from Feb 2023 – Sept 2023

Mavacamten for treating symptomatic obstructive hypertrophic cardiomyopathy

Technology appraisal guidance [TA913]

Published: 06 September 2023

<https://www.nice.org.uk/guidance/ta913>

Targeted temperature management to improve neurological outcomes after cardiac arrest

In development [GID-IPG10238]

Expected publication date: 23 January 2024

<https://www.nice.org.uk/guidance/indevelopment/gid-ipg10238>

MiraQ cardiac TTFM with high-frequency probe for assessing graft flow during coronary artery bypass graft surgery

Medtech innovation briefing [MIB323]

Published: 20 June 2023

<https://www.nice.org.uk/advice/mib323>

Cardiovascular risk assessment and lipid modification

Quality standard [QS100]

Published: 04 September 2015 Last updated: 24 May 2023

<https://www.nice.org.uk/guidance/qs100>

Percutaneous thrombectomy for massive pulmonary embolus

In development [GID-IPG10243]

Expected publication date: 29 November 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-ipg10243>

Venous thromboembolic diseases: diagnosis, management and thrombophilia testing

NICE guideline [NG158]

Published: 26 March 2020 Last updated: 02 August 2023

<https://www.nice.org.uk/guidance/ng158>

Dapagliflozin for treating chronic heart failure with preserved or mildly reduced ejection fraction

Technology appraisal guidance [TA902]

Published: 21 June 2023

<https://www.nice.org.uk/guidance/ta902>

Empagliflozin for treating chronic heart failure with preserved or mildly reduced ejection fraction [ID3945]

In development [GID-TA10946]

Expected publication date: 01 November 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-ta10946>

Algorithm-based remote monitoring of heart failure risk data in people with cardiac implantable electronic devices

In development [GID-DG10080]

Expected publication date: 10 July 2024

<https://www.nice.org.uk/guidance/indevelopment/gid-dg10080>

KardiaMobile for detecting atrial fibrillation

Medical technologies guidance [MTG64]

Published: 06 January 2022 Last updated: 25 July 2023

<https://www.nice.org.uk/guidance/mtg64>

Hypertension in pregnancy: diagnosis and management

NICE guideline [NG133]

Published: 25 June 2019 Last updated: 17 April 2023

<https://www.nice.org.uk/guidance/ng133>

Sebelipase alfa for treating Wolman disease [ID3995]

In development [GID-HST10047]

Expected publication date: 18 October 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-hst10047>

Cardiovascular disease: risk assessment and reduction, including lipid modification - Escalation of Therapy

In development [GID-NG10368]

Expected publication date: 19 December 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-ng10368>

Evinacumab for treating homozygous familial hypercholesterolaemia in people aged 12 years and over [ID2704]

In development [GID-TA10655]

Expected publication date: 07 February 2024

<https://www.nice.org.uk/guidance/indevelopment/gid-ta10655>

Olipudase alfa for treating acid sphingomyelinase deficiency (Niemann Pick disease type B and AB) [ID3913]

In development [GID-TA10788]

Expected publication date: 21 March 2024

<https://www.nice.org.uk/guidance/indevelopment/gid-ta10788>

Cardiovascular disease: risk assessment and reduction, including lipid modification

Clinical guideline [CG181]

Published: 18 July 2014 Last updated: 24 May 2023

<https://www.nice.org.uk/guidance/cg181>

Cardiovascular risk assessment and lipid modification

Quality standard [QS100]

Published: 04 September 2015 Last updated: 24 May 2023

<https://www.nice.org.uk/guidance/qs100>

Automated ankle brachial pressure index measurement devices to detect peripheral arterial disease in people with leg ulcers

Diagnostics guidance [DG52]

Published: 24 May 2023

<https://www.nice.org.uk/guidance/dg52>

Percutaneous deep venous arterialisation for chronic limb-threatening ischaemia

In development [GID-IPG10239]

Expected publication date: 18 October 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-ipg10239>

Intravascular lithotripsy for calcified arteries in peripheral arterial disease

In development [GID-IPG10304]

Expected publication date: 17 January 2024

<https://www.nice.org.uk/guidance/indevelopment/gid-ipg10304>

Stroke rehabilitation in adults

In development [GID-NG10175]

Expected publication date: 18 October 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-ng10175>

Transfemoral carotid artery stent placement for asymptomatic extracranial carotid stenosis

In development [GID-IPG10250]

Expected publication date: 22 November 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-ipg10250>

Clopidogrel genotype testing after ischaemic stroke or transient ischaemic attack

In development [GID-DG10054]

Expected publication date: 20 December 2023

<https://www.nice.org.uk/guidance/indevelopment/gid-dg10054>

Artificial intelligence (AI) software to help clinical decision making in stroke

In development [GID-DG10044]

Expected publication date: 10 January 2024

<https://www.nice.org.uk/guidance/indevelopment/gid-dg10044>

Aortic valve reconstruction with glutaraldehyde-treated autologous pericardium for aortic valve disease

Interventional procedures guidance [IPG769]

Published: 09 August 2023

<https://www.nice.org.uk/guidance/ipg769>

Selection of papers from Medline, Embase and cinhal (past 6 months, most recent first)

1. Towards the Provision of Palliative Care Services in the Intensive Coronary Care Units: Nurses' Knowledge, Training Needs, and Related-Barriers

Item Type: Journal Article

Authors: Abu-Aziz, Baraa;Alkasseh, Areefa S. M.;Bayuo, Jonathan and Abu-Odah, Hammoda

Publication Date: 2023

Journal: Healthcare (2227-9032) 11(12), pp. 1781

Access or request full text: <https://libkey.io/10.3390/healthcare11121781>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=164651639&custid=ns023446>

2. Cardiac rehabilitation for heart failure and atrial fibrillation: a propensity- matched study

Item Type: Journal Article

Authors: Alhotye, Munyra;Evans, Rachael;Ng, Andre and Singh, Sally J.

Publication Date: 2023

Journal: Open Heart 10(2)

Abstract: Background: Atrial fibrillation (AF) is common in individuals with heart failure (HF). Individuals with HF and AF may have a reduced functional capacity and quality of life (QoL) which leads to hospital admission and burden on clinical services. Evidence supported the effect of exercise training in individuals with HF. However, there is no existing data on the effectiveness of comprehensive cardiac rehabilitation (CR) in individuals with coexisting HF and AF.; **Aim:** To explore the effect of CR in individuals with HF and AF compared with those with HF and no-coexisting AF.; **Methods:** Using CR database, individuals with HF and AF were identified and propensity matched to those with no coexisting AF. The change in incremental shuttle walking test, Heart Disease Quality of Life questionnaire, Hospital Anxiety and Depression Scores were compared between groups pre-CR and post-CR.; **Results:** 149 individuals were propensity matched from each group. The mean±SD age of the matched sample was 73.4±8 years, body mass index 29±5.5 kg/m², left ventricular ejection fraction 35.2±9.8% and 56% were male. A statistically significant improvements in exercise capacity, heart disease QoL, anxiety and depression scores were observed within each group. There were no significant differences between groups for any of these outcome measures.; **Conclusions:** Individuals with HF and AF gain a similar improvement in exercise capacity and health related QoL outcomes as individuals with no coexisting AF following CR. The presence of AF did not compromise the effectiveness of CR.; **Competing Interests:** Competing interests: None declared. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.)

Access or request full text: <https://libkey.io/10.1136/openhrt-2023-002372>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37567605&custid=ns023446>

3. Effect of Statins on the Blood Lipid Profile in Patients with Different Cardiovascular Diseases: A Systematic Review with Meta-analysis of Randomized Clinical Trials.

Item Type: Journal Article

Authors: Aslani, S.;Razi, B.;Imani, D.;Mohammadi, K.;JamialahMadi, T.;Reiner, Z. and Sahebkar, A.

Publication Date: 2023

Journal: Current Medicinal Chemistry 30(32), pp. 3702-3724

Abstract: Background: Statins are the main lipid-lowering drugs and are used in the prevention of cardiovascular diseases (CVDs). Since the results have been, to some extent, inconsistent in the clinical trials concerning different types of CVDs, a systematic review and meta-analysis was performed to prove the effect of statins on decreasing elevated levels of total cholesterol, triglycerides (TG), low-density lipoprotein cholesterol (LDL-C), and high-density lipoprotein cholesterol (HDL-C) in patients with CVDs.

URL: <https://libkey.io/libraries/1293/openurl?genre=article&sid=OVID:embase&id=pmid:36453499&id=doi:10.2174%2F0929867330666221129094921&issn=0929-8673&isbn=&volume=30&issue=32&spage=3702&pages=3702-3724&date=2023&title=Current+Medicinal+Chemistry&atitle=Effect+of+Statins+on+the+Blood+Lipid+Profile+in+Patients+with+Different+Cardiovascular+Diseases%3A+A+Systematic+Review+with+Meta-analysis+of+Randomized+Clinical+Trials&aulast=Aslani&pid=%3Cauthor%3EAslani+S.%3BRazi+B.%3BImani+D.%3BMohammadi+K.%3BJamialah-Madi+T.%3BREiner+Z.%3BSahebkar+A.%3C%2Fauthor%3E%3CAN%3E2023949451%3C%2FAN%3E%3CDT%3EArticle%3C%2FDT%3E>

4. Changes in Cardiac Function During a Swallow Exercise Program in Patients with Coronary Artery Disease

Item Type: Journal Article

Authors: Barker, Jennifer;Martino, Rosemary and Yau, Terrence M.

Publication Date: 2023

Journal: Dysphagia 38(1), pp. 389-396

Abstract: Research regarding risks of swallow treatment suggests that patients with coronary artery disease (CAD) experience changes in heart rate/rhythm when completing the supraglottic swallow and super-supraglottic swallow. The current study evaluated cardiac function during multiple swallowing exercises in patients with dysphagia and CAD. Eligible patients had CAD and confirmed pharyngeal dysphagia from VFS and sufficient cognitive ability to follow direction. The protocol included an a priori concealed randomized order of seven swallowing exercises (supraglottic swallow, super-supraglottic swallow, Mendelsohn and Masako maneuvers, effortful swallow with and without breath hold, and jaw opening exercise). Objective measures of heart rate/rhythm, oxygen saturation, and blood pressure were compared before vs after the overall session and each exercise using the Wilcoxon signed-rank test, and McNemar's and Cochran's Q tests with alpha at 0.05 and power at 0.80. Participants were 20 adults (15 male), aged 28-88 (median 76.5 years). 90% were intubated during their hospital stay (44% > 1 intubation) and 20% suffered post-op stroke. Severe dysphagia, marked by NPO status, occurred in 30% of patients. Sessions were 26 min long (mean; SD = 2.29). With few exceptions, objective measures were stable pre vs post overall and after each exercise. Potential vulnerability was noted with increased heart rate after the super-supraglottic swallow and increased arrhythmias after the effortful swallow ($p < 0.05$ for both). The order that swallowing exercises were completed did not significantly impact cardiovascular function. Telemetry and pulse oximetry proved to be feasible tools to monitor for subtle changes in cardiovascular function during completion of swallowing exercises. (© 2022. The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.)

Access or request full text: <https://libkey.io/10.1007/s00455-022-10477-7>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=35796876&custid=ns023446>

5. Machine learning to assess coronary artery disease status—is it helpful?

Item Type: Journal Article

Authors: Batra, Puneet and Khera, Amit V.

Publication Date: 2023

Journal: Lancet 401(10372), pp. 173-175

Access or request full text: [https://libkey.io/10.1016/S0140-6736\(22\)02584-3](https://libkey.io/10.1016/S0140-6736(22)02584-3)

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=161362851&custid=ns023446>

6. A phase III, multi-arm multi-stage covariate-adjusted response-adaptive randomized trial to determine optimal early mobility training after stroke (AVERT DOSE)

Item Type: Journal Article

Authors: Bernhardt, Julie;Churilov, Leonid;Dewey, Helen;Donnan, Geoffrey;Ellery, Fiona;English, Coralie;Gao, Lan;Hayward, Kathryn;Horgan, Frances;Indredavik, Bent;Johns, Hannah;Langhorne, Peter;Lindley, Richard;Martins, Sheila;Ali Katijjahbe, Md;Middleton, Sandy;Moodie, Marj;Pandian, Jeyaraj;Parsons, Brooke;Robinson, Thompson, et al

Publication Date: 2023

Journal: International Journal of Stroke : Official Journal of the International Stroke Society 18(6), pp. 745-750

Abstract: Rationale: The evidence base for acute post-stroke rehabilitation is inadequate and global guideline recommendations vary.; **Aim:** To define optimal early mobility intervention regimens for ischemic stroke patients of mild and moderate severity.; **Hypotheses:** Compared with a prespecified reference arm, the optimal dose regimen(s) will result in more participants experiencing little or no disability (mRS 0-2) at 3 months post-stroke (primary), fewer deaths at 3 months, fewer and less severe complications during the intervention period, faster recovery of unassisted walking, and better quality of life at 3 months (secondary). We also hypothesize that these regimens will be more cost-effective.; **Sample Size Estimates:** For the primary outcome, recruitment of 1300 mild and 1400 moderate participants will yield 80% power to detect a 10% risk difference.; **Methods and Design:** Multi-arm multi-stage covariate-adjusted response-adaptive randomized trial of mobility training commenced within 48 h of stroke in mild (NIHSS ≥ 2) and hemorrhagic stroke. With four arms per stratum (reference arm retained throughout), only the single treatment arm demonstrating the highest proportion of favorable outcomes at the first stage will proceed to the second stage in each stratum, resulting in a final comparison with the reference arm. Three prognostic covariates of age, geographic region and reperfusion interventions, as well as previously observed mRS 0-2 responses inform the adaptive randomization procedure. Participants randomized receive prespecified mobility training regimens (functional task-specific), provided by physiotherapists/nurses until discharge or 14 days. Interventions replace usual mobility training. Fifty hospitals in seven countries (Australia, Malaysia, United Kingdom, Ireland, India, Brazil, Singapore) are expected to participate.; **Summary:** Our novel adaptive trial design will evaluate a wider variety of mobility regimes than a traditional two-arm design. The data-driven adaptations during the trial will enable a more

efficient evaluation to determine the optimal early mobility intervention for patients with mild and moderate ischemic stroke.

Access or request full text: <https://libkey.io/10.1177/17474930221142207>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36398582&custid=ns023446>

7. Rehabilitation Support via Postcard (RSVP): A Randomised Controlled Trial of a Postcard to Promote Uptake of Cardiac Rehabilitation

Item Type: Journal Article

Authors: Britton, Ben;Murphy, Maria;Jansson, Anna K.;Boyle, Andrew;Duncan, Mitch J.;Collins, Clare E.;Baker, Amanda L.;Kerr, Jane;Rutherford, Julie;Inder, Kerry J. and Plotnikoff, Ronald C.

Publication Date: 2023

Journal: Heart, Lung & Circulation 32(8), pp. 1010-1016

Abstract: Purpose: The aim was to increase cardiac rehabilitation (CR) uptake using a novel intervention, Rehabilitation Support Via Postcard (RSVP), among patients with acute myocardial infarction discharged from two major hospitals in Hunter New England Local Health District (HNELHD), New South Wales, Australia.; **Methods:** The RSVP trial was evaluated using a two-armed randomised controlled trial design. Participants (N=430) were recruited from the two main hospitals in HNELHD, and enrolled and randomised to either the intervention (n=216) or control (n=214) group over a six-month period. All participants received usual care; however, the intervention group received postcards promoting CR attendance between January and July 2020. The postcard was ostensibly written as an invitation from the patient's admitting medical officer to promote timely and early uptake of CR. The primary outcome was CR attendance at outpatient HNELHD CR services in the 30-days post-discharge.; **Results:** Fifty-four percent (54%) of participants who received RSVP attended CR, compared to 46% in the control group; however this difference was not statistically significant (odds ratio OR]=1.4, 95% confidence interval CI]=0.9-2.0, p=0.11). Exploratory post-hoc analysis among four sub-groups (i.e., Indigeneity, gender, age and rurality), found that the intervention significantly increased attendance in males (OR=1.6, 95%CI=1.0-2.6, p=0.03) but had no significant impact on attendance for other sub-groups.; **Conclusions:** While not statistically significant, postcards increased overall CR attendance by 8%. This strategy may be useful to increase attendance, particularly in men. Alternative strategies are necessary to increase CR uptake among women, Indigenous people, older people and people from regional and remote locations. (Copyright © 2023 The Author(s). Published by Elsevier B.V. All rights reserved.)

Access or request full text: <https://libkey.io/10.1016/j.hlc.2023.05.008>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37302865&custid=ns023446>

8. Impact of preeclampsia on cardiovascular events: An analysis of the Generation Scotland: Scottish family health study

Item Type: Journal Article

Authors: Brown, Catriona E.;Casey, Helen;Dominiczak, Anna F.;Kerr, Shona;Campbell, Archie and Delles, Christian

Publication Date: 2023

Journal: Journal of Human Hypertension 37(8), pp. 735-741

Abstract: Preeclampsia is a recognised cause of an increased risk of major adverse cardiovascular events when compared to the background risk in women who did not have hypertensive disorders during pregnancy. The Generation Scotland: Scottish Family Health Study (GS:SFHS) is a population cohort of more than 20,000 members of the Scottish population. Using the Scottish Morbidity Records, we linked the women in the GS:SFHS cohort to validated maternity and inpatient admission data. This allowed us to robustly identify cardiovascular outcomes in the form of inpatient admission for cardiovascular events. We also aimed to explore the risk of pregnancy on future cardiovascular events, using data from nulliparous and parous women. In total, 9732 women were selected. 3693 women were nulliparous, and after study exclusion, 5253 women with 9583 pregnancies remained. Pregnancies from 1980 until the end of the study period of 1st of July 2013 were included. Cardiovascular events occurred in 9.0% of nulliparous women, 4.2% of women with pregnancies and in 7.6% of women with a history of preeclampsia. A total of 218 parous women experienced cardiovascular events, 25 in the preeclampsia group and 193 in the normotensive group. Survival analysis was undertaken, with index pregnancy taken as first pregnancy in normotensive controls and first preeclampsia pregnancy in cases. Endpoint of interest was admission to hospital with first cardiovascular event. After further exclusions a total of 169 cardiovascular events occurred in the normotensive pregnancy group and 20 in the preeclampsia group. Women with a history of preeclampsia were more likely to have cardiovascular events later in life than women with normotensive deliveries. This was statistically significantly different on Kaplan Meier survival analysis, (log rank Mantel-Cox p-value < 0.001). The women in our study were middle-aged, within 33 years of pregnancy, with a mean age of 53 years in the preeclampsia cardiovascular events group. Our study supports the urgent need for uniform guidelines and implementation to improve the health in women with this medical history. Increased awareness among the public of the cardiovascular risk associated with PE is vital to aid uptake of cardiovascular prevention programmes. (© 2023. The Author(s).)

Access or request full text: <https://libkey.io/10.1038/s41371-023-00812-2>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36973315&custid=ns023446>

9. In CAD, treat-to-target statins were noninferior to high-intensity statins for a composite clinical outcome.

Item Type: Journal Article

Authors: Colivicchi, F.

Publication Date: 2023

Journal: Annals of Internal Medicine 176(7), pp. J74

URL: <https://libkey.io/libraries/1293/openurl?genre=article&sid=OVID:embase&id=pmid:37399550&id=doi:10.7326%2FJ23-0041&issn=0003-4819&isbn=&volume=176&issue=7&spage=JC74&pages=JC74&date=2023&title=Annals+of+Internal+Medicine&atitle=In+CAD%2C+treat-to-target+statins+were+noninferior+to+high-intensity+statins+for+a+composite+clinical+outcome&aulast=Colivicchi&pid=%3Cauthor%3EColivicchi+F.%3C%2Fauthor%3E%3CAN%3E2026740802%3C%2FAN%3E%3CDT%3ENote%3C%2FDT%3E>

10. Right needle, right patient, right time? A national flash-mob audit of thromboprophylaxis in palliative care

Item Type: Journal Article

Authors: Crabtree, Alice;Kavanagh, Emily;Chamberlain, Charlotte;Wakefield, Donna;Daniel, Rhian;Schofield, Guy;Star, Angela;Yardley, Sarah;Whyte, Imogen;Chu, Christina;Billett, Hannah and Noble, Simon

Publication Date: 2023

Journal: Thrombosis Research 223, pp. 95-101

Abstract: Background: The prevention of hospital associated thrombosis in palliative care remains controversial yet many countries recommend the documented risk assessment and where appropriate pharmacological prophylaxis of inpatients with advanced cancer.; **Aim:** To audit adherence to national guidelines which require hospitalised patients to be risk assessed and receive appropriate thromboprophylaxis.; **Design:** A one day "flash-mob" audit across multiple clinical inpatient sites across the United Kingdom.; **Setting/participants:** Inpatients receiving palliative care within hospitals, hospices and specialist palliative care units across the United Kingdom.; **Results:** Data were collected from 1125 patients (514 hospital and 611 hospice/specialist palliative care units). Appropriate thromboprophylaxis was observed in 90 % of hospital and 90 % hospice/specialist palliative care units. Documented risk assessment was only found in 79 % and 71 % of patient notes respectively. Pharmacological thromboprophylaxis was contraindicated in 88 % of hospice/specialist palliative care unit patients due to bleeding risk or receiving end-of-life care. Twenty-four percent of patients in hospital had contraindications due to receiving end of life care, bleeding risk and thrombocytopenia. Patients in hospice/specialist palliative care units were of poorer performance status prior to admission with a history of gradual deterioration. Hospitalised patients were more likely to have been admitted following an acute deterioration of previous good performance status.; **Conclusion:** Thromboprophylaxis guidelines were followed correctly for the majority of patients. There were considerable differences in the demographics of patients according to place of admission. Patients admitted to hospice/specialist palliative care units were sicker and had more contraindications to prophylaxis than those admitted to hospital. Thromboprophylaxis focused research data conducted in hospices is unlikely to be applicable to the care of palliative care patients admitted acutely to hospital.; **Competing Interests:** Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Simon Noble has been an author on the ASH Guidelines for Cancer and Thrombosis and the NICE Clinical Guideline 89: VTE prevention. The other authors have no conflicts of interest to declare. (Crown Copyright © 2023. Published by Elsevier Ltd. All rights reserved.)

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URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36738665&custid=ns023446>

11. LOOP DIURETICS IN PATIENTS WITHOUT A DIAGNOSIS OF HEART FAILURE.

Item Type: Journal Article

Authors: Cuthbert, J.;Turgoose, J.;Clark, A.;Cohen, J. and Soyiri, I.

Publication Date: 2023

Journal: Heart Conference, pp. Brtsh

Abstract: Background: Heart failure (HF) is difficult to diagnose. As a consequence epidemiology is difficult to estimate. Loop diuretics are one of the most commonly prescribed medications in primary care but there are few indications beyond treatment of venous congestion in patients with HF. An audit of clinical practice at a single primary care practice in East Yorkshire in 2018 found a similar proportion of patients prescribed a loop diuretic without a diagnosis of HF, as there were on the practice HF register. These patients had a 25% rate of HF hospitalisation or death after 2 years. **Objective:** To assess the differences in symptom burden and clinical outcome in patients prescribed a loop diuretic without a diagnosis of heart failure (HF), patients with HF, and those with risk factors for the disease in primary care in the UK. **Methods:** This is a retrospective, observational, propensitymatched

cohort study using data from the Clinical Practice Research Datalink, Hospital Episode Statistics (HES), and Office of National Statistics death records. Patients prescribed a loop diuretic without a diagnosis of HF (study group) between January 1st 2010 and December 31st 2015 were compared to patients with HF (control group 1) (analysis A), and patients with risk factors for HF (ischaemic heart disease or diabetes and hypertension -control group 2-analysis B). The primary endpoint was a HF event (presentation to primary care with symptoms of HF (breathlessness, peripheral oedema, orthopnoea, or fatigue), HF hospitalisation, incident HF (analysis B only), and all-cause mortality). All patients had at least 5 year follow up. The propensity score was calculated using a cumulative logit regression model. In analysis A, patients were matched for age, sex, and co-morbidities. In analysis B, patients were matched for age and sex only. Patients with a diagnostic code for HF, or a code indicating the absence of HF before the index date were excluded from all three groups. Patients who were presumed to have clinically evident HF at the time of loop diuretic prescription, or who were presumed to have followed an appropriate diagnostic pathway were excluded from the study group. Patients who had a medication code for a loop diuretic prescription before or on the index date were excluded from control group 2. Patients whose date of death was on or before the index date were also excluded. Results After exclusion criteria were applied (figure 1), 59694 patients, 25595 patients, and 62365 patients were in the study group, control group 1, and control group 2 respectively. Patients in the study group were more similar to patients in control group 1 than to patients in control group 2 (table 1 and 2). Patients in the study group were slightly less likely to experience a HF event compared to control group 1 (71% vs. 76%; hazard ratio (HR) 0.75 (95% confidence interval (CI) 0.74 -0.77); $P < 0.001$), but twice as likely to experience a HF event than those in control group B (60% vs. 37%; $HR = 2.09$ (95% CI 2.04 -2.13); $P < 0.001$) (figure 2). Patients in the study group were also more likely to present to primary care with symptoms of HF than either control group 1 (39% vs. 26%; $P < 0.001$) or 2 (36% vs. 20%; $P < 0.001$). **Conclusions:** Patients prescribed a loop diuretic without a diagnosis of HF have a high burden of HF symptoms, and experience HF events at a rate comparable to that of patients with HF, and twice that of age-matched patients with HF risk factors. Implications The prevalence of HF in the UK may be underestimated. This may be due to a complex definition and diagnostic algorithm, especially HF with a normal or preserved ejection fraction, causing clinical uncertainty for doctors and their patients. Simplifying the definition of HF may lead to a more streamlined diagnostic process and reduce delays in treatment which may improve outcome. There is an urgent need for a "universal definition" of HF..

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12. Healthcare professionals' perceptions of using a digital patient educational programme as part of cardiac rehabilitation in patients with coronary artery disease - a qualitative study

Item Type: Journal Article

Authors: Danielsbacka, Jenny;Feldthusen, Caroline and Bäck, Maria

Publication Date: 2023

Journal: BMC Health Services Research 23(1), pp. 1017

Abstract: Background: Participation in cardiac rehabilitation in patients with coronary artery disease (CAD) remains underutilised. Digital educational programmes, as part of cardiac rehabilitation, are emerging as a means of increasing accessibility, but healthcare professionals' perceptions of implementing and using these programmes are not known. The aim of the study was therefore to explore healthcare professionals' perceptions and experiences of implementing and using a digital patient educational programme (DPE) as part of cardiac rehabilitation after acute CAD.; **Methods:** Individual semi-structured interviews were performed with 12 nurses and physiotherapists, ten women with a median age of 49.5 (min 37- max 59) years, with experience of using the DPE as part of a phase II cardiac rehabilitation programme in Region Västra Götaland, Sweden. The interviews were transcribed verbatim and

analysed with inductive content analysis according to Graneheim and Lundman.; Results: An overall theme was identified throughout the unit of analysis: "Digital patient education - a complement yet not a replacement". Within this theme, three main categories were identified: "Finding ways that make implementation work", "Accessibility to information for confident and involved patients" and "Reaching one another in a digital world". Each main category contains a number of sub-categories.; **Conclusions:** This study adds new knowledge on healthcare professionals' perceptions of a digital patient educational programme as a valuable and accessible alternative to centre-based education programmes as part of cardiac rehabilitation for patients with CAD. The participants highlighted the factors necessary for a successful implementation, such as support through the process and sufficient time from the employer to learn the system and to create new routines in daily practice. Future research is needed to further understand the impact of digital education systems in the secondary prevention of CAD. Ultimately, hybrid models, where the choice of delivery depends on the preferences of the individual patient, would be the optimal model of care for the future. (© 2023. BioMed Central Ltd., part of Springer Nature.)

Access or request full text: <https://libkey.io/10.1186/s12913-023-09997-1>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37735650&custid=ns023446>

13. Primary prevention of acute cardiovascular events by influenza vaccination: an observational study

Item Type: Journal Article

Authors: Davidson, Jennifer A.;Banerjee, Amitava;Douglas, Ian;Leyrat, Clémence;Pebody, Richard;McDonald, Helen I.;Herrett, Emily;Forbes, Harriet;Smeeth, Liam and Warren-Gash, Charlotte

Publication Date: 2023

Journal: European Heart Journal 44(7), pp. 610-620

Abstract: Aims: Previous studies show a reduced incidence of first myocardial infarction and stroke 1-3 months after influenza vaccination, but it is unclear how underlying cardiovascular risk impacts the association.; **Methods and Results:** The study used linked Clinical Practice Research Datalink, Hospital Episode Statistics Admitted Patient Care and Office for National Statistics mortality data from England between 1 September 2008 and 31 August 2019. From the data, individuals aged 40-84 years with a first acute cardiovascular event and influenza vaccination occurring within 12 months of each September were selected. Using a self-controlled case series analysis, season-adjusted cardiovascular risk stratified incidence ratios (IRs) for cardiovascular events after vaccination compared with baseline time before and >120 days after vaccination were generated. 193 900 individuals with a first acute cardiovascular event and influenza vaccine were included. 105 539 had hypertension and 172 050 had a QRISK2 score $\geq 10\%$. In main analysis, acute cardiovascular event risk was reduced in the 15-28 days after vaccination IR 0.72 (95% CI 0.70-0.74)] and, while the effect size tapered, remained reduced to 91-120 days after vaccination 0.83 (0.81-0.88)]. Reduced cardiovascular events were seen after vaccination among individuals of all age groups and with raised and low cardiovascular risk.; **Conclusions:** Influenza vaccine may offer cardiovascular benefit among individuals at varying cardiovascular risk. Further studies are needed to characterize the populations who could derive the most cardiovascular benefits from vaccination.; **Competing Interests: Conflict of interest:** A.B. has received grants from Astra Zeneca, UK Research and Innovation (UKRI), British Medical Association and the NIHR. C.W.-G. has received speaker fees from Sanofi Pasteur and participated in a Data Safety Monitoring Board for an investigator-led trial of the effect of influenza vaccination after heart attack on future cardiovascular prognosis (NCT02831608) from January 2019 to April 2020. H.I.M. is funded by the National Institute for Health Research (NIHR) Health Protection Research Unit in Vaccines and Immunisation was an invited expert to the Commission on Human Medicines (CHM) COVID-19 Vaccine Safety Surveillance Methodologies Expert Working Group. I.D. has received unrestricted research grants from Glaxo Smith Kline. C.L. has received lecturer fees from Astra Zeneca and participated in a Data Safety Monitoring Board for the Université de Clermont-Ferrand (NCT03892148). J.A.D. is funded by the British Heart

Foundation through the grant received by C.W.-G. E.H. is funded by a NIHR postdoctoral fellowship. All other authors declare no competing interests. (© The Author(s) 2022. Published by Oxford University Press on behalf of the European Society of Cardiology.)

Access or request full text: <https://libkey.io/10.1093/eurheartj/ehac737>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36537199&custid=ns023446>

14. Home-based cardiac rehabilitation and physical activity in people with heart failure: a secondary analysis of the REACH-HF randomised controlled trials

Item Type: Journal Article

Authors: Dibben, Grace O.;Hillsdon, Melvyn;Dalal, Hasnain M.;Tang, Lars H.;Doherty, Patrick Joseph and Taylor, Rod

Publication Date: 2023

Journal: BMJ Open 13(2), pp. e063284

Abstract: Objectives: To quantify the impact of a home-based cardiac rehabilitation intervention (Rehabilitation Enablement in Chronic Heart Failure (REACH-HF)) on objectively assessed physical activity (PA) of patients with heart failure (HF) and explore the extent by which patient characteristics are associated with a change in PA.; **Design:** Secondary analysis of randomised controlled trial data.; **Setting:** Five centres in the UK.; **Participants:** 247 patients with HF (mean age 70.9±10.3 years; 28% women).; **Interventions:** REACH-HF versus usual care (control).; **Primary and Secondary Outcome Measures:** PA was assessed over 7 days via GENEActiv triaxial accelerometer at baseline (pre-randomisation), post-intervention (4 months) and final follow-up (6-12 months). Using HF-specific intensity thresholds, intervention effects (REACH-HF vs control) on average min/day PA (inactivity, light PA and moderate-to-vigorous PA (MVPA)) over all days, week days and weekend days were examined using linear regression analysis. Multivariable regression was used to explore associations between baseline patient characteristics and change in PA.; **Results:** Although there was no difference between REACH-HF and control groups in 7-day PA levels post-intervention or at final follow-up, there was evidence of an increase in weekday MVPA (10.9 min/day, 95% CI: -2.94 to 24.69), light PA (26.9 min/day, 95% CI: -0.05 to 53.8) and decreased inactivity (-38.31 min/day, 95% CI: -72.1 to -4.5) in favour of REACH-HF. Baseline factors associated with an increase in PA from baseline to final follow-up were reduced MVPA, increased incremental shuttle walk test distance, increased Hospital Anxiety and Depression Scale anxiety score and living with a child >18 years (p<0.05).; **Conclusions:** While participation in the REACH-HF home-based cardiac rehabilitation intervention did not increase overall weekly activity, patient's behaviour patterns appeared to change with increased weekday PA levels and reduced inactivity. Baseline PA levels were highly predictive of PA change. Future focus should be on robust behavioural changes, improving overall levels of objectively assessed PA of people with HF.; **Trial Registration Numbers:** ISRCTN78539530 and ISRCTN86234930.; **Competing Interests:** Competing interests: RT, HMD, PJD and MH were investigators in the REACH-HF study. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY. Published by BMJ.)

Access or request full text: <https://libkey.io/10.1136/bmjopen-2022-063284>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36759035&custid=ns023446>

15. Immediate versus staged complete revascularisation in patients presenting with acute coronary syndrome and multivessel coronary disease (BIOVASC): a prospective, open-label, non-inferiority, randomised trial

Item Type: Journal Article

Authors: Diletti, Roberto;den Dekker, Wijnand,K.;Bennett, Johan;Schotborgh, Carl E.;van der Schaaf, Rene;Sabaté, Manel;Moreno, Raúl;Ameloot, Koen;van Bommel, Rutger;Forlani, Daniele;van Reet, Bert;Esposito, Giovanni;Dirksen, Maurits T.;Ruifrok, Willem P. T.;Everaert, Bert R. C.;Van Mieghem, Carlos;Elscot, Jacob J.;Cummins, Paul;Lenzen, Mattie and Brugaletta, Salvatore

Publication Date: 2023

Journal: Lancet 401(10383), pp. 1172-1182

Access or request full text: [https://libkey.io/10.1016/S0140-6736\(23\)00351-3](https://libkey.io/10.1016/S0140-6736(23)00351-3)

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=162920198&custid=ns023446>

16. Declining risk of heart failure hospitalization following first acute myocardial infarction in Scotland between 1991-2016

Item Type: Journal Article

Authors: Docherty, Kieran F.;Jackson, Alice M.;Macartney, Mark;Campbell, Ross T.;Petrie, Mark C.;Pfeffer, Marc A.;McMurray, John J. V. and Jhund, Pardeep S.

Publication Date: 2023

Journal: European Journal of Heart Failure 25(8), pp. 1213-1224

Abstract: Aim: Mortality from acute myocardial infarction (AMI) has declined, increasing the pool of survivors at risk of later development of heart failure (HF). However, coronary reperfusion limits infarct size and secondary prevention therapies have improved. In light of these competing influences, we examined long-term trends in the risk of HF hospitalization (HFH) following a first AMI occurring in Scotland over 25 years.; **Methods and Results:** All patients in Scotland discharged alive after a first AMI between 1991 and 2015 were followed until a first HFH or death until the end of 2016 (minimum follow-up 1 year, maximum 26 years). A total of 175 672 people with no prior history of HF were discharged alive after a first AMI during the period of study. A total of 21 445 (12.2%) patients had a first HFH during a median follow-up of 6.7 years. Incidence of HFH (per 1000 person-years) at 1 year following discharge from a first AMI decreased from 59.3 (95% confidence interval CI] 54.2-64.7) in 1991 to 31.3 (95% CI 27.3-35.8) in 2015, with consistent trends seen for HF occurring within 5 and 10 years. Accounting for the competing risk of death, the adjusted risk of HFH at 1 year after discharge decreased by 53% (95% CI 45-60%), with similar decreases at 5 and 10 years.; **Conclusion:** The incidence of HFH following AMI in Scotland has decreased since 1991. These trends suggest that better treatment of AMI and secondary prevention are having an impact on the risk of HF at a population level. (© 2023 The Authors. European Journal of Heart Failure published by John Wiley & Sons Ltd on behalf of European Society of Cardiology.)

Access or request full text: <https://libkey.io/10.1002/ejhf.2965>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37401485&custid=ns023446>

17. Development of a complex exercise rehabilitation intervention for people with pulmonary hypertension: the supervised pulmonary hypertension exercise rehabilitation (SPHERE) trial

Item Type: Journal Article

Authors: Ennis, Stuart;Sandhu, Harbinder Kaur;Bruce, Julie;Seers, Kate;Pincus, Tamar;Underwood, Martin and McGregor, Gordon

Publication Date: 2023

Journal: BMJ Open 13(8), pp. e066053

Abstract: Background: People with pulmonary hypertension (PH) are not routinely referred for exercise rehabilitation despite the potential for reducing breathlessness and improving quality of life. We describe the development of a supervised pulmonary hypertension exercise rehabilitation (SPHERE) programme for people with PH.; **Methods:** Development was completed in three phases: (1) systematic review, (2) stakeholder engagement with consensus from patients and experts and (3) prepilot intervention acceptability testing. We completed systematic reviews to identify international cardiopulmonary rehabilitation guidance and trials of exercise-based interventions for people with PH. Evidence from systematic reviews and stakeholder consensus shaped the SPHERE intervention, including addition of individual behavioural support sessions to promote exercise adherence. The draft SPHERE intervention was ratified through discussions with multidisciplinary professionals and people living with PH. We acceptability tested the centre-based intervention with eight participants in a prepilot development phase which identified a number of condition-specific issues relating to safety and fear avoidance of activity. Comprehensive intervention practitioner training manuals were produced to ensure standardised delivery. Participant workbooks were developed and piloted. Trial recruitment began in January 2020 but was subsequently suspended in March 2020 further to COVID-19 pandemic 'lockdowns'. In response to the pandemic, we undertook further development work to redesign the intervention to be suitable for exclusively home-based online delivery. Recruitment to the revised protocol began in June 2021.; **Discussion:** The final SPHERE intervention incorporated weekly home-based online group exercise and behavioural support 'coaching' sessions supervised by trained practitioners, with a personalised home exercise plan and the optional loan of a stationary exercise bike. The intervention was fully manualised with clear pathways for assessment and individualised exercise prescription. The clinical and cost-effectiveness of the SPHERE online rehabilitation intervention is currently being tested in a UK multicentre randomised controlled trial.; Trial Registration Number: ISCRTN10608766.; Competing Interests: Competing interests: MU has received multiple research grants as chief investigator or coinvestigator from the National Institute of Health Research (NIHR) and Arthritis Research UK. Until March 2020, he was an NIHR Journal Series Editor. He is a shareholder and director in Clinvivo. He is coinvestigator on two NIHR-funded trials receiving additional support from Stryker. He is part of an academic partnership involving Serco. GM and SE are directors of Atrium Health, a provider of cardiopulmonary rehabilitation services for the NHS. GM holds grants from NIHR and British Heart Foundation. JB is supported by National Institute for Health Research (NIHR) Research Capability Funding via University Hospitals Coventry and Warwickshire. She currently has grant funding as coinvestigator from NIHR, Diabetes Research UK and British Heart Foundation. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.)

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URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37536964&custid=ns023446>

18. The Association Between Digoxin Use and Long-Term Mortality After Acute Coronary Syndrome.

Item Type: Journal Article

Authors: Erkkila, O.;Hernesniemi, J. and Tynkynen, J.

Publication Date: 2023

Journal: American Journal of Cardiology 204, pp. 377-382

Abstract: Digoxin is used to treat atrial fibrillation and heart failure. Previous studies have reported an association between digoxin and higher mortality, but the results have been conflicting. This study assessed the association between digoxin use and all-cause mortality using comprehensive health data of patients treated for acute coronary syndrome (ACS). This was a retrospective analysis of 8,388 consecutive ACS patients treated in Tays Heart Hospital between 2007 and 2017, with a follow-up until the end of 2018. The adjusted Cox regression model was used to analyze the association between digoxin treatment and all-cause mortality with and without the inverse probability of treatment weighting (IPTW) method. IPTW was applied to estimate the residual confounding by the treatment selection. Clinical phenotype data were collected from various sources, including a prospectively updated online database maintained by physicians. The median follow-up time was 6.0 years (interquartile range 3.5 to 9.0 years). During the follow-up, 30.8% (n = 2,580) of the patients died. Altogether, 4.0% (n = 333) of the patients were treated with digoxin during hospitalization. In the Cox regression model, digoxin associated with increased mortality (age- and sex-adjusted hazard ratio [HR] 1.76 [1.51 to 2.05], $p < 0.001$ and in the full risk factor-adjusted HR 1.23 [1.04 to 1.45], $p = 0.016$). The IPTW Cox analysis average treatment effect HR was 1.71 (1.12 to 2.62, $p = 0.013$), standardized average treatment effect HR was 1.35 (0.96 to 1.90, $p = 0.082$), and treatment effect among the treated HR was 1.32 (1.09 to 1.59, $p = 0.004$). In conclusion, digoxin treatment during ACS associates with increased mortality, despite adjusting for other risk factors and after accounting for factors explaining the residual confounding by selection bias.

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19. Barriers and facilitators in providing home-based rehabilitation for stroke survivors with severe disability in the UK: an online focus group study with multidisciplinary rehabilitation teams

Item Type: Journal Article

Authors: Fisher, Rebecca J.; Russell, Lal; Riley-Bennett, Frances; Cameron, Trudi; Walker, Marion and Sackley, Cath

Publication Date: 2023

Journal: BMJ Open 13(8), pp. e071217

Abstract: Objectives: In the UK, over 20% of stroke survivors leave hospital with severe disability. Limited evidence-based clinical guidance is available to support the rehabilitation of these individuals. Our previous research has focused on establishing consensus regarding the core components of home-based rehabilitation for this under investigated group. This study explores the barriers of providing rehabilitation and identifies strategies to overcome them.; **Design:** Three focus group interviews were conducted with n=20. The context coding framework was employed to organise the transcribed data and to facilitate inductive and deductive analysis and synthesis.; **Setting:** Online, MSTEams, UK.; **Participants:** A purposive sample of 20 National Health Service clinical staff participants, from 3 multidisciplinary teams providing home-based stroke rehabilitation for this population (n=7, 6 and 7).; **Results:** High levels of need were reported across multiple domains for survivors including continence, communication and physical function. Interventions often required multiagency collaboration in order to optimise the available resources and specialist skills. There was lack of clarity regarding who was ultimately responsible for providing components of rehabilitation for stroke survivors with severe disability. Teams provide rehabilitation for this population but are insufficiently commissioned or resourced to fully meet their needs. In-complete and disjointed pathways with resultant healthcare inequalities were commonly reported. Teams used a variety of strategies to overcome these barriers and optimise rehabilitation opportunities. These included upskilling a diverse range of partners to capitalise on the skills and resources across health, social care and voluntary sector boundaries employing multiagency

collaboration. Teams established and engaged networks of stakeholders in order to advocate on behalf of stroke survivors.; **Conclusions:** Collaboration and partnership working is important in the delivery of rehabilitation for stroke survivors with severe disability. Commissioners need to be aware that cross-agency multidisciplinary expertise is required, if rehabilitation opportunities are to be realised and existing health inequalities addressed.; Competing Interests: Competing interests: None declared. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.)

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URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37532479&custid=ns023446>

20. Current concepts in coronary artery revascularisation

Item Type: Journal Article

Authors: Gaudino, Mario;Andreotti, Felicita and Kimura, Takeshi

Publication Date: 2023

Journal: Lancet 401(10388), pp. 1611-1628

Access or request full text: [https://libkey.io/10.1016/S0140-6736\(23\)00459-2](https://libkey.io/10.1016/S0140-6736(23)00459-2)

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=163658717&custid=ns023446>

21. Theory-based nursing interventions in adults with coronary heart disease: A systematic review and meta-analysis of randomized controlled trials

Item Type: Journal Article

Authors: Gok Metin, Zehra;Izgu, Nur;Gulbahar Eren, Merve and Eroglu, Hacer

Publication Date: 2023

Journal: Journal of Nursing Scholarship 55(2), pp. 439-463

Abstract: Purpose: This systematic review and meta-analysis aimed to synthesize the outcomes of theory-based nursing interventions for coronary heart disease management. **Design and Methods:** Web of Science, Scopus, Science Direct, and PubMed databases were electronically searched from January 2013 to August 2021. The Preferred Reporting Item for Systematic Reviews and Meta-analyses statement guidelines was followed for this meta-analysis. Randomized controlled trials on patients with coronary heart disease, using a theory-based nursing intervention were eligible. Methodological quality was examined by two authors using the Modified Jadad Scale. Based on the heterogeneity test, the results were analyzed using a pool of data with 95% confidence intervals, p-values, and fixed or random-effect models (PROSPERO registration number X). Findings A total of 1030 studies were initially retrieved, and 8 randomized controlled trials were eventually included in the meta-analysis after screening. The big majority (81.3%) of participants were males, and the mean age was 54.8 (SD = 8.7) years. This meta-analysis found theory-based nursing interventions had no significant effect on blood lipid profile, blood pressure, and healthy lifestyle. However, these interventions significantly reduced fasting blood glucose, and body mass index and improved the physical and psychological domains of quality of life. **Conclusions:** The evidence from this meta-analysis reveals that theory-based nursing interventions have a positive effect on fasting blood glucose, body mass

index, and quality of life. However, their effects on blood lipid profile, blood pressure, and a healthy lifestyle are inconclusive. The results of this meta-analysis are largely based on a few trials and were limited in terms of the number of outcomes. Conducting well-designed randomized controlled trials with adequate power is needed to make a firm conclusion on the influence of theory-based nursing interventions on patient outcomes in the CHD population.

Clinical relevance: Considering the high mortality and morbidity of coronary heart disease, nurses may play a significant role in coronary heart disease management by providing interventions that are based on a certain theoretical framework. This meta-analysis provides insights into the implementation of theory-based nursing interventions in heart attack survivors or those newly diagnosed with coronary heart disease led by nurses and lasting longer than 6 months in coronary heart disease. In addition, future studies should consider enhancing the content of training programs for a healthy lifestyle within the theory-based nursing interventions and compare the effects of these interventions on acute and chronic coronary syndromes.

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22. Utilization and Outcomes of Primary Prevention Implantable Cardioverter-Defibrillators in Patients With Hypertrophic Cardiomyopathy

Item Type: Journal Article

Authors: Goldstein, Sarah A.; Kennedy, Kevin F.; Friedman, Daniel J.; Al-Khatib, Sana and Wang, Andrew

Publication Date: 2023

Journal: Journal of the American Heart Association 12(16), pp. e029293

Abstract: Background: There is uncertainty about the appropriate use of primary prevention implantable cardioverter-defibrillators (ICDs) among older patients with hypertrophic cardiomyopathy. **Methods and Results:** Patients with hypertrophic cardiomyopathy who received a primary prevention ICD between 2010 and 2016 were identified using the National Cardiovascular Data Registry ICD Registry. Trends in ICD utilization and patient characteristics were assessed over time. Using linked Centers for Medicare and Medicaid Service claims data, Cox proportional hazard models assessed factors associated with mortality and postdischarge hospitalization for cardiac arrest/ventricular arrhythmia. Of 5571 patients with hypertrophic cardiomyopathy, 1511 (27.1%) were ≥ 65 years old. ICD utilization increased over time in all age groups. There were no changes in the prevalence of risk factors for sudden cardiac death over time. The variables most strongly associated with postdischarge mortality were older age (adjusted hazard ratio (aHR) 1.80 95% CI, 1.47-2.21], New York Heart Association class (III/IV versus I/II aHR 2.17 95% CI, 1.57-2.98]), and left ventricular ejection fraction (left ventricular ejection fraction $\leq 35\%$ versus $>50\%$ aHR 2.34 95% CI, 1.58-3.48]; left ventricular ejection fraction 36%-50% versus $>50\%$ aHR 2.98 95% CI, 2.02-4.40]), while history of nonsustained ventricular tachycardia (aHR 2.38 95% CI, 1.62-3.51]) and New York Heart Association class (III/IV versus I/II aHR 1.84 95% CI, 1.22-2.78]) were strongly associated with hospitalization for ventricular arrhythmia/cardiac arrest. **Conclusions:** Primary prevention ICD utilization in patients with hypertrophic cardiomyopathy increased over time, including among those ≥ 65 years old. Among older patients, the strongest risk factors for hospitalization for ventricular arrhythmia/cardiac arrest following ICD implantation were history of nonsustained ventricular tachycardia and New York Heart Association class.

Access or request full text: <https://libkey.io/10.1161/JAHA.122.029293>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37586066&custid=ns023446>

23. Effects of empowerment education on patients after percutaneous coronary intervention: A meta-analysis and systematic review

Item Type: Journal Article

Authors: Guo, Linbin;Gao, Wanpeng;Wang, Tianlin and Shan, Xinjue

Publication Date: 2023

Journal: Medicine 102(23), pp. e33992

Abstract: Background: Empowerment education is a new nursing education model with great significance in the process of chronic disease rehabilitation, and a number of studies have found that it has good benefits for patients after percutaneous coronary intervention (PCI). But there is no meta-analysis on how empowerment education influence the life of patients after PCI.; **Aims:** Our study intends to evaluate the impact of empowerment education on the quality of life, cognitive level, anxiety and depression level of patients after PCI.; **Design:** Systematic review and meta-analysis, following PRISMA guidelines.; **Methods:** RevMan5.4 software and R software were used for statistical analysis. Mean difference or standard mean difference was used as effect analysis statistic for continuous variables with 95% confidence intervals.; **Results:** Six studies met the inclusion criteria, including 641 patients. The Exercise of Self-Care Agency Scale score of the experimental group was higher than that of the control group, with statistically significant difference. Empowerment education could increase the knowledge of coronary heart disease in patients after PCI, but the difference was not statistically significant.; **Conclusion:** Significant effects of empowerment have been found in improving patients' quality of life and self-care ability. Empowerment education could be a safe exercise option in PCI rehabilitation. However, the effect of empowerment on cognitive level for coronary heart disease and the depression needs to carry out more large-sample, multi-center clinical trials.; **Patient or Public Contribution:** A data-analysis researcher and 3 clinicians are responsible for the writing, and no patients participated in the writing of this paper.; **Competing Interests:** The authors have no funding and conflicts of interest to disclose. (Copyright © 2023 the Author(s). Published by Wolters Kluwer Health, Inc.)

Access or request full text: <https://libkey.io/10.1097/MD.00000000000033992>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37335644&custid=ns023446>

24. Parkrun as self-managed cardiac rehabilitation: secondary analysis of a cross-sectional survey of parkrun in the UK

Item Type: Journal Article

Authors: Haake, Steve;Johnson, Thomas W.;Bourne, Jessica;Quirk, Helen and Bullas, Alice

Publication Date: 2023

Journal: Open Heart 10(2)

Abstract: Objectives: Cardiac rehabilitation following a cardiovascular disease (CVD)-related illness has been shown to reduce the risk of heart attack and hospital admission. The American College of Sports Medicine recommends 3-5 days per week of moderate to vigorous exercise. Despite this, only 38% of those eligible complete rehabilitation programmes. Parkrun organises free, weekly, timed, 5 km running or walking events. The aim of this study was to investigate whether parkrun can support self-managed cardiac rehabilitation.; **Methods:** We undertook a secondary analysis of a survey of UK parkrunners, comparing responses of those reporting no health conditions (n=53 967) with those with one or more CVD-related conditions (n=404). Thematic analysis was used to analyse 53 open-ended text comments from the latter.; **Results:** Four hundred and four respondents (0.7% of the total) reported CVD-related conditions with the largest proportions among those walking the event (24% of male participants and 5% of female

participants). For those doing <3 days per week of physical activity at registration, 47% increased activity to ≥3 days per week. Among those with CVD-related conditions, participation in parkrun led to perceived improvements in fitness (81% of participants), physical health (80% of participants) and happiness (74% of participants). Two thirds reported improvements to their ability to manage their condition(s) and half to their lifestyle choices. Analysis of 53 open-text comments revealed that those with CVD-related conditions used parkrun to monitor their condition and were motivated by encouragement from the parkrun community. Enjoyment and fun were important for engagement, although some individuals were dispirited by poor performance due to their conditions.; **Conclusions:** Individuals with CVD-related conditions used parkrun to self-manage their rehabilitation; this applied to those attending parkrun following disease onset as well as those engaged with parkrun prior to their condition. Parkrun, or events with similar characteristics, could support self-managed cardiac rehabilitation.; **Competing Interests:** Competing interests: SH is Chair and AB and HQ are Deputy Chairs of the parkrun Research Board, while other authors are parkrun participants. For the purpose of open access, the authors have applied a Creative Commons Attribution (CC BY) licence to any Author Accepted Manuscript version arising from this submission. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.)

Access or request full text: <https://libkey.io/10.1136/openhrt-2023-002355>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37495369&custid=ns023446>

25. Patient Satisfaction With a Nurse Practitioner–Led Heart Failure Clinic

Item Type: Journal Article

Authors: Haas, Douglass;Pozehl, Bunny;Alonso, Windy W. and Diederich, Theresa

Publication Date: 2023

Journal: Journal for Nurse Practitioners 19(4), pp. N.PAG

Abstract: This project assessed patient satisfaction with a nurse practitioner–led multidisciplinary heart failure clinic for optimization of guideline directed medical therapy for patients with heart failure. A cohort design (N = 51) assessed patient satisfaction, 6-Minute Walk Test, quality of life (EQ-VAS) and symptoms (PROMIS-29). Satisfaction scores ranged from 7 to 10 with a mean score of 9.38 ± 0.92 . No statistically significant correlations were found between patient satisfaction and the 6-Minute Walk Test, EQ-VAS, and PROMIS-29. Patients were highly satisfied with the care provided in the nurse practitioner–led clinic. • Patients reported high satisfaction with the care provided in a nurse-practitioner-led multidisciplinary heart failure clinic for optimization of guideline-directed medical therapy for patients with heart failure with reduced ejection (HFrEF). • Patient satisfaction was not related to 6-minute walk test distance, quality of life, or symptoms. • Patient satisfaction with care delivery is an important and often overlooked indicator of quality of care.

Access or request full text: <https://libkey.io/10.1016/j.nurpra.2022.11.006>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=163337840&custid=ns023446>

26. The Impact of Statins on Postdischarge Atrial Fibrillation After Cardiac Surgery: Secondary Analysis from a Randomized Trial.

Item Type: Journal Article

Authors: Hibino, M.;Verma, S.;Pandey, A. K.;Bisleri, G.;Yanagawa, B.;Verma, R.;Puar, P.;Quan, A.;Teoh, H.;Yau, T. M.;Verma, A.;Ha, A. C. T. and Mazer, C. D.

Publication Date: 2023

Journal: CJC Open 5(4), pp. 285-291

Abstract: Background: Whether statins reliably reduce the risk of postoperative atrial fibrillation (POAF) in patients undergoing cardiac surgery remains controversial. We sought to determine the impact of statin use on new-onset postdischarge POAF in the Post-Surgical Enhanced Monitoring for Cardiac Arrhythmias and Atrial Fibrillation (SEARCH-AF) CardioLink-1 randomized controlled trial.

URL: <https://libkey.io/libraries/1293/openurl?genre=article&sid=OVID:embase&id=pmid:&id=doi:10.1016%2Fj.cjco.2022.12.012&issn=2589-790X&isbn=&volume=5&issue=4&spage=285&pages=285-291&date=2023&title=CJC+Open&atitle=The+Impact+of+Statins+on+Postdischarge+Atrial+Fibrillation+After+Cardiac+Surgery%3A+Secondary+Analysis+from+a+Randomized+Trial&aulast=Hibino&pid=%3Cauthor%3EHibino+M.%3BVerma+S.%3BPandey+A.K.%3BBisleri+G.%3BYanagawa+B.%3BVerma+R.%3BPuar+P.%3BQuan+A.%3BTeoh+H.%3BYau+T.M.%3BVerma+A.%3BHa+A.C.T.%3BMazer+C.D.%3C%2Fauthor%3E%3CAN%3E2023399032%3C%2FAN%3E%3CDT%3EArticle%3C%2FDT%3E>

27. Analysis of Readmissions Due to VTE-Using Hospital Data to Improve VTE Prophylaxis Compliance: A Quality Improvement Project

Item Type: Journal Article

Authors: Hussain, Muzamil Hamid;Kim, Shihyeon;Khan, Adnan Ali;Arshad, Ainan and Khan, Haroon

Publication Date: 2023

Journal: Clinical and Applied Thrombosis/Hemostasis : Official Journal of the International Academy of Clinical and Applied Thrombosis/Hemostasis 29, pp. 10760296231181916

Abstract: Venous thromboembolism (VTE) is a preventable cause of mortality and morbidity. We performed a retrospective analysis of patient records to identify those readmitted with a diagnosis of VTE within 6 months of the primary admission. The records were evaluated to see whether thromboprophylaxis had been provided to patients at high risk for VTE. A total of 360 hospital encounters between August 1, 2018, and August 31, 2019, with VTE, 57 (16%) encounters were readmissions with a primary diagnosis of deep vein thrombosis within 180 days of their primary stay. A high proportion (44%) of these readmissions were within the first 30 days. 3% (n = 9) of patients developed pulmonary embolism; 35 (61%) did not receive thromboprophylaxis on their primary stay. Thromboprophylaxis is often not utilized appropriately in healthcare settings. Our study showed substantial incidence of hospital readmissions due to VTE which is consistent with prior studies conducted globally. A more stringent adherence to the protocol along with risk stratification may lower rates of VTE admission and reduce associated morbidity and mortality.

Access or request full text: <https://libkey.io/10.1177/10760296231181916>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37345427&custid=ns023446>

28. Impact of ezetimibe on markers of inflammation in patients treated with statins: a systematic review.

Item Type: Journal Article

Authors: Klement, M.;Drexel, H. and Saely, C. H.

Publication Date: 2023

Journal: Inflammopharmacology 31(4), pp. 1647-1656

Abstract: Statins are the primary pharmacological intervention to reduce LDL cholesterol; they significantly reduce inflammatory markers. Ezetimibe also reduces LDL cholesterol and reduces cardiovascular events when given on top of statin therapy. Whether ezetimibe, like statins, reduces markers of inflammation is less clear. We, therefore, conducted a systematic literature research addressing the impact of ezetimibe on CRP, TNFalpha and IL-6 when given on top of statin therapy. Our work indicates that overall ezetimibe reduces inflammation on top of statin treatment. However, available data are limited for CRP and even more so for TNFalpha and IL-6.

URL: <https://libkey.io/libraries/1293/openurl?genre=article&sid=OVID:embase&id=pmid:37261626&id=doi:10.1007%2Fs10787-023-01209-w&issn=0925-4692&isbn=&volume=31&issue=4&spage=1647&pages=1647-1656&date=2023&title=Inflammopharmacology&atitle=Impact+of+ezetimibe+on+markers+of+inflammation+in+patients+treated+with+statins%3A+a+systematic+review&aulast=Klement&pid=%3Cauthor%3EKlement+M.%3BDrexel+H.%3BSaely+C.H.%3C%2Fauthor%3E%3CAN%3E2023527781%3C%2FAN%3E%3CDT%3EReview%3C%2FDT%3E>

29. Digitally enabled acute care for atrial fibrillation: conception, feasibility and early outcomes of an AF virtual ward

Item Type: Journal Article

Authors: Kotb, Ahmed;Armstrong, Susanne;Koev, Ivelin;Antoun, Ibrahim;Vali, Zakariyya;Panchal, Gaurav;Barker, Joseph;Mavilakandy, Akash;Chin, Shui Hao;Lazdam, Merzaka;Ibrahim, Mokhtar;Sandilands, Alastair;Somani, Riyaz and Ng, G. A.

Publication Date: 2023

Journal: Open Heart 10(1)

Abstract: Background: Atrial fibrillation (AF) represents a growing healthcare challenge, mainly driven by acute hospitalisations. Virtual wards could be the way forward to manage acute AF patients through remote monitoring, especially with the rise in global access to digital telecommunication and the growing acceptance of telemedicine post-COVID-19.; **Methods:** An AF virtual ward was implemented as a proof-of-concept care model. Patients presenting acutely with AF or atrial flutter and rapid ventricular response to the hospital were onboarded to the virtual ward and managed at home through remote ECG-monitoring and 'virtual' ward rounds, after being given access to a single-lead ECG device, a blood pressure monitor and pulse oximeter with instructions to record daily ECGs, blood pressure, oxygen saturations and to complete an online AF symptom questionnaire. Data were uploaded to a digital platform for daily review by the clinical team. Primary outcomes included admission avoidance, readmission avoidance and patient satisfaction. Safety outcomes included unplanned discharge from the virtual ward, cardiovascular mortality and all-cause mortality.; **Results:** There were 50 admissions to the virtual ward between January and August 2022. Twenty-four of them avoided initial hospital admission as patients were directly enrolled to the virtual ward from outpatient settings. A further 25 readmissions were appropriately prevented during virtual surveillance. Patient satisfaction questionnaires yielded 100% positive responses among participants. There were three unplanned discharges from the virtual ward requiring hospitalisation. Mean heart rate on admission to the virtual ward and discharge was 122±26 and 82±27 bpm respectively. A rhythm control strategy was pursued in 82% (n=41) and 20% (n=10) required 3 or more remote pharmacological interventions.; **Conclusion:** This is a first real-world experience of an AF virtual ward that heralds a potential means for reducing AF hospitalisations and the associated financial burden, without compromising on patients' care or safety.; **Competing Interests:** Competing interests: None declared. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY. Published by

BMJ.)

Access or request full text: <https://libkey.io/10.1136/openhrt-2023-002272>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37385729&custid=ns023446>

30. Identifying and visualising multimorbidity and comorbidity patterns in patients in the English National Health Service: a population-based study

Item Type: Journal Article

Authors: Kuan, Valerie;Denaxas, Spiros;Patalay, Praveetha;Nitsch, Dorothea;Mathur, Rohini;Gonzalez-Izquierdo, Arturo;Sofat, Reecha;Partridge, Linda;Roberts, Amanda;Wong, Ian C. K.;Hingorani, Melanie;Chaturvedi, Nishi;Hemingway, Harry and Hingorani, Aroon D.

Publication Date: 2023

Journal: The Lancet.Digital Health 5(1), pp. e16-e27

Abstract: Background: Globally, there is a paucity of multimorbidity and comorbidity data, especially for minority ethnic groups and younger people. We estimated the frequency of common disease combinations and identified non-random disease associations for all ages in a multiethnic population.; **Methods:** In this population-based study, we examined multimorbidity and comorbidity patterns stratified by ethnicity or race, sex, and age for 308 health conditions using electronic health records from individuals included on the Clinical Practice Research Datalink linked with the Hospital Episode Statistics admitted patient care dataset in England. We included individuals who were older than 1 year and who had been registered for at least 1 year in a participating general practice during the study period (between April 1, 2010, and March 31, 2015). We identified the most common combinations of conditions and comorbidities for index conditions. We defined comorbidity as the accumulation of additional conditions to an index condition over an individual's lifetime. We used network analysis to identify conditions that co-occurred more often than expected by chance. We developed online interactive tools to explore multimorbidity and comorbidity patterns overall and by subgroup based on ethnicity, sex, and age.; **Findings:** We collected data for 3 872 451 eligible patients, of whom 1 955 700 (50.5%) were women and girls, 1 916 751 (49.5%) were men and boys, 2 666 234 (68.9%) were White, 155 435 (4.0%) were south Asian, and 98 815 (2.6%) were Black. We found that a higher proportion of boys aged 1-9 years (132 506 47.8% of 277 158) had two or more diagnosed conditions than did girls in the same age group (106 982 40.3% of 265 179), but more women and girls were diagnosed with multimorbidity than were boys aged 10 years and older and men (1 361 232 80.5% of 1 690 521 vs 1 161 308 70.8% of 1 639 593). White individuals (2 097 536 78.7% of 2 666 234) were more likely to be diagnosed with two or more conditions than were Black (59 339 60.1% of 98 815) or south Asian individuals (93 617 60.2% of 155 435). Depression commonly co-occurred with anxiety, migraine, obesity, atopic conditions, deafness, soft-tissue disorders, and gastrointestinal disorders across all subgroups. Heart failure often co-occurred with hypertension, atrial fibrillation, osteoarthritis, stable angina, myocardial infarction, chronic kidney disease, type 2 diabetes, and chronic obstructive pulmonary disease. Spinal fractures were most strongly non-randomly associated with malignancy in Black individuals, but with osteoporosis in White individuals. Hypertension was most strongly associated with kidney disorders in those aged 20-29 years, but with dyslipidaemia, obesity, and type 2 diabetes in individuals aged 40 years and older. Breast cancer was associated with different comorbidities in individuals from different ethnic groups. Asthma was associated with different comorbidities between males and females. Bipolar disorder was associated with different comorbidities in younger age groups compared with older age groups.; **Interpretation:** Our findings and interactive online tools are a resource for: patients and their clinicians, to prevent and detect comorbid conditions; research funders and policy makers, to redesign service provision, training priorities, and guideline development; and biomedical researchers and manufacturers of medicines, to provide leads for research into common or sequential pathways of disease and inform the design of clinical trials.; **Funding:** UK Research and Innovation, Medical Research Council, National Institute for Health and Care Research, Department of Health and

Social Care, Wellcome Trust, British Heart Foundation, and The Alan Turing Institute.; Competing Interests: Declaration of interests DN is the UK Kidney Association Director of Informatics Research based at the UK Renal Registry and is on the steering committee for two GlaxoSmithKline-funded studies looking at kidney function markers in sub-Saharan Africa. ICKW was a member of the ISAC of CPRD and has received funding from Amgen, Bristol-Myers Squibb, Pfizer, Janssen, Bayer, GSK, and Novartis to conduct pharmacoepidemiological research outside the submitted work. RM has received consulting fees from Amgen. ADH is a co-investigator on a grant from Pfizer to identify potential therapeutic targets for heart failure using human genomics. NC is remunerated for her membership of a data safety and monitoring committee of a trial sponsored by AstraZeneca. All other authors declare no competing interests. (Copyright © 2023 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY 4.0 license. Published by Elsevier Ltd.. All rights reserved.)

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URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36460578&custid=ns023446>

31. Association of nursing hours with cognitive function, balance, and dependency level of stroke patients

Item Type: Journal Article

Authors: Lee, Haneul;Lee, Kyounga and Lee, Seon-Heui

Publication Date: 2023

Journal: Nursing Open 10(3), pp. 1735-1743

Abstract: **Aims:** To examine the association of nursing hours given to patients with stroke with clinical characteristics to predict the nursing care needs.; **Design:** Twenty-four-hour observational study **METHODS:** Nursing hours per patient day (NHPPD) of 171 stroke patients were measured by 146 nursing personnel who worked on the day of the observation. Cognitive function, balance ability and dependency level were assessed using the Korean version of the Mini-Mental State Examination (K-MMSE), the Korean version of the Berg Balance Scale (K-BBS) and the Korean version of the Modified Barthel Index (K-MBI), respectively.; **Results:** The NHPPD were moderately correlated with K-MMSE ($r = -.450$), K-BBS ($r = -.529$) and K-MBI ($r = -.549$). The worse the cognitive function, balance ability and dependency level, the more were the nursing hours given to the patients. Therefore, these factors can be considered to be factors that predict nursing care needs for patients with stroke. (© 2022 The Authors. Nursing Open published by John Wiley & Sons Ltd.)

Access or request full text: <https://libkey.io/10.1002/nop2.1430>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36303300&custid=ns023446>

32. Examining the benefit of graduated compression stockings in the prevention of hospital-associated venous thromboembolism in low-risk surgical patients: a multicentre cluster randomised controlled trial (PETS trial)

Item Type: Journal Article

Authors: Machin, Matthew;Peerbux, Sarrah;Whittley, Sarah;Hunt, Beverley J.;Everington, Tamara;Gohel, Manjit;Norrie, John;Epstein, David;Warwick, David J.;Baker, Christopher;Hamady, Zaed;Smith, Sasha;Bolton, Layla;Stephens-Boal, Annya;Gray, Beverley;Shalhoub, Joseph and Davies, Alun Huw

Publication Date: 2023

Journal: BMJ Open 13(1), pp. e069802

Abstract: Introduction: Hospital-acquired thrombosis (HAT) is defined as any venous thromboembolism (VTE)-related event during a hospital admission or occurring up to 90 days post discharge, and is associated with significant morbidity, mortality and healthcare-associated costs. Although surgery is an established risk factor for VTE, operations with a short hospital stay (<48 hours) and that permit early ambulation are associated with a low risk of VTE. Many patients undergoing short-stay surgical procedures and who are at low risk of VTE are treated with graduated compression stockings (GCS). However, evidence for the use of GCS in VTE prevention for this cohort is poor.; **Methods and Analysis:** A multicentre, cluster randomised controlled trial which aims to determine whether GCS are superior in comparison to no GCS in the prevention of VTE for surgical patients undergoing short-stay procedures assessed to be at low risk of VTE. A total of 50 sites (21 472 participants) will be randomised to either intervention (GCS) or control (no GCS). Adult participants (18-59 years) who undergo short-stay surgical procedures and are assessed as low risk of VTE will be included in the study. Participants will provide consent to be contacted for follow-up at 7-days and 90-days postsurgical procedure. The primary outcome is the rate of symptomatic VTE, that is, deep vein thrombosis or pulmonary embolism during admission or within 90 days. Secondary outcomes include healthcare costs and changes in quality of life. The main analysis will be according to the intention-to-treat principle and will compare the rates of VTE at 90 days, measured at an individual level, using hierarchical (multilevel) logistic regression.; **Ethics and Dissemination:** Ethical approval was granted by the Camden and Kings Cross Research Ethics Committee (22/LO/0390). Findings will be published in a peer-reviewed journal and presented at national and international conferences.; **Trial Registration Number:** ISRCTN13908683.; **Competing Interests:** Competing interests: None declared. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY. Published by BMJ.)

Access or request full text: <https://libkey.io/10.1136/bmjopen-2022-069802>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36653057&custid=ns023446>

33. Shorter Door-to-Needle Times Are Associated With Better Outcomes After Intravenous Thrombolytic Therapy and Endovascular Thrombectomy for Acute Ischemic Stroke

Item Type: Journal Article

Authors: Man, Shumei;Solomon, Nicole;Mac Grory, Brian;Alhanti, Brooke;Uchino, Ken;Saver, Jeffrey L.;Smith, Eric E.;Xian, Ying;Bhatt, Deepak L.;Schwamm, Lee H.;Hussain, Muhammad Shazam and Fonarow, Gregg C.

Publication Date: 2023

Journal: Circulation 148(1), pp. 20-34

Abstract: Background: Existing data and clinical trials could not determine whether faster intravenous thrombolytic therapy (IVT) translates into better long-term functional outcomes after acute ischemic stroke among those treated with endovascular thrombectomy (EVT). Patient-level national data can provide the required large population to study the associations between earlier IVT, versus later, with longitudinal functional outcomes and mortality in patients receiving IVT+EVT combined treatment.; **Methods:** This cohort study included older US patients (age ≥65 years) who received IVT within 4.5 hours or EVT within 7 hours after acute ischemic stroke using the linked 2015 to 2018 Get With The Guidelines-Stroke and Medicare database (38 913 treated with IVT only and 3946 with IVT+EVT). Primary outcome was home time, a patient-prioritized functional outcome. Secondary outcomes included all-cause mortality in 1 year. Multivariate logistic regression and Cox proportional hazards models were used to evaluate the associations between door-to-needle (DTN) times and outcomes.; **Results:** Among patients treated with IVT+EVT, after adjusting for patient and hospital factors, including onset-to-EVT times, each 15-minute increase in DTN times

for IVT was associated with significantly higher odds of zero home time in a year (never discharged to home) (adjusted odds ratio, 1.12 95% CI, 1.06-1.19)), less home time among those discharged to home (adjusted odds ratio, 0.93 per 1% of 365 days 95% CI, 0.89-0.98)), and higher all-cause mortality (adjusted hazard ratio, 1.07 95% CI, 1.02-1.11)). These associations were also statistically significant among patients treated with IVT but at a modest degree (adjusted odds ratio, 1.04 for zero home time, 0.96 per 1% home time for those discharged to home, and adjusted hazard ratio 1.03 for mortality). In the secondary analysis where the IVT+EVT group was compared with 3704 patients treated with EVT only, shorter DTN times (≤ 60 , 45, and 30 minutes) achieved incrementally more home time in a year, and more modified Rankin Scale 0 to 2 at discharge (22.3%, 23.4%, and 25.0%, respectively) versus EVT only (16.4%, $P < 0.001$ for 60 minutes). **Conclusions:** Among older patients with stroke treated with either IVT only or IVT+EVT, shorter DTN times are associated with better long-term functional outcomes and lower mortality. These findings support further efforts to accelerate thrombolytic administration in all eligible patients, including EVT candidates.; **Competing Interests:**

Access or request full text: <https://libkey.io/10.1161/CIRCULATIONAHA.123.064053>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37199147&custid=ns023446>

34. Impact of COVID-19 pandemic on cardiovascular diseases hospitalisation, management and mortality in Switzerland

Item Type: Journal Article

Authors: Maung, Ko Ko and Marques-Vidal, Pedro

Publication Date: 2023

Journal: Open Heart 10(1)

Abstract: Background: COVID-19 pandemic led to a reduction in hospital admissions and intervention for other diseases in many countries. We aimed to assess the effect of COVID-19 pandemic on cardiovascular disease (CVD) hospitalisations, management and mortality in Switzerland.; **Methods:** Swiss hospital discharge and mortality data for period 2017-2020. CVD hospitalisations, CVD interventions and CVD mortality were assessed before (2017-2019) and during (2020) the pandemic. Expected numbers of admissions, interventions and deaths for 2020 were computed using simple linear regression model.; **Results:** Compared with 2017-2019, 2020 was characterised by a reduction of CVD admissions in age groups 65-84 and ≥ 85 by approximately 3700 and 1700 cases, respectively, and by an increase in the percentage of admissions with a Charlson index > 8 . The total number of CVD-related deaths decreased from 21 042 in 2017 to 19 901 in 2019, and increased to 20 511 in 2020, with an estimated excess of 1139 deaths. This increase was due to out-of-hospital deaths (+1342), while the number of in-hospital deaths decreased from 5030 in 2019 to 4796 in 2020, which concerned mostly subjects aged ≥ 85 years. The total number of admissions with cardiovascular interventions increased from 55 181 in 2017 to 57 864 in 2019, and decreased in 2020, with an estimated reduction of 4414 admissions; percutaneous transluminal coronary angioplasty (PTCA) was the exception, as the number and percentage of emergency admissions with PTCA increased. The preventive measures applied against COVID-19 inverted the seasonal pattern of CVD admissions, the highest number of admissions being found in summer and the lowest in winter.; **Conclusion:** The COVID-19 pandemic led to a reduction in CVD hospital admissions, planned CVD interventions, an increase in total and out-of-hospital CVD deaths and a change in seasonal patterns.; **Competing Interests:** Competing interests: None declared. (© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.)

Access or request full text: <https://libkey.io/10.1136/openhrt-2023-002259>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36977515&custid=ns023446>

35. Preventability of venous thromboembolism in hospitalised patients

Item Type: Journal Article

Authors: Narayan, Sujita W.;Gad, Fady;Chong, Julianne;Chen, Vivien M. and Patanwala, Asad E.

Publication Date: 2023

Journal: Internal Medicine Journal 53(4), pp. 577-583

Abstract: Background: Hospital-acquired venous thromboembolism (VTE) is a major cause of morbidity and mortality.; **Aims:** To determine the proportion of patients with hospital-acquired VTE that are preventable.; **Methods:** This was a retrospective study of patients in two tertiary care hospitals in Sydney, Australia. Data were collected for patients with hospital-acquired VTE based on International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) coding from January 2018 to May 2020. Patients were classified as low, moderate or high risk of developing a VTE during hospitalisation based on demographic and clinical factors. A hospital-acquired VTE was considered to be potentially preventable if there was suboptimal prophylaxis in the absence of contraindications. Suboptimal therapy included at least one of the following related to VTE prophylaxis: low dose, missed dose (prior to developing a VTE), suboptimal drug and delayed start (>24 h from admission).; **Results:** There were 229 patients identified with VTE based on ICD-10-AM coding. A subset of 135 patients were determined to have actual hospital-acquired VTE. Of these, there were no patients at low risk, 64% (87/135) at moderate risk and 44% (48/135) at high risk of developing a VTE. Most (65%; n = 88/135) patients had one or more contraindications to receive recommended prophylaxis. Overall, the proportion of patients who received suboptimal prophylaxis was 11% (15/135).; **Conclusion:** Approximately one out of 10 hospital-acquired VTE are preventable. Hospitals should focus on measuring and reporting VTE that are preventable to provide a more accurate measure of the burden of VTE that can be reduced by improving care. (© 2021 Royal Australasian College of Physicians.)

Access or request full text: <https://libkey.io/10.1111/imj.15600>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=34719859&custid=ns023446>

36. Effect of a Nurse-Led Intervention on Knowledge of the Modifiable Risk Behaviors of Cardiovascular Disease: A Randomized Controlled Trial

Item Type: Journal Article

Authors: Okube, Okubatsion Tekeste;Kimani, Samuel T. and Mirie, Waithira

Publication Date: 2023

Journal: SAGE Open Nursing , pp. 1-14

Access or request full text: <https://libkey.io/10.1177/23779608231201044>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=171850283&custid=ns023446>

37. Coordinated Care to Optimize Cardiovascular Preventive Therapies in Type 2 Diabetes: A Randomized Clinical Trial

Item Type: Journal Article

Authors: Pagidipati, Neha J.;Nelson, Adam J.;Kaltenbach, Lisa A.;Leyva, Monica;McGuire, Darren K.;Pop-Busui, Rodica;Cavender, Matthew A.;Aroda, Vanita R.;Magwire, Melissa L.;Richardson, Caroline R.;Lingvay, Ildiko;Kirk, Julianne K.;Al-Khalidi, Hussein;Webb, Laura;Gaynor, Tanya;Pak, Jonathan;Senyucel, Cagri;Lopes, Renato D.;Green, Jennifer B. and Granger, Christopher B.

Publication Date: 2023

Journal: Jama 329(15), pp. 1261-1270

Abstract: Importance: Evidence-based therapies to reduce atherosclerotic cardiovascular disease risk in adults with type 2 diabetes are underused in clinical practice.; **Objective:** To assess the effect of a coordinated, multifaceted intervention of assessment, education, and feedback vs usual care on the proportion of adults with type 2 diabetes and atherosclerotic cardiovascular disease prescribed all 3 groups of recommended, evidence-based therapies (high-intensity statins, angiotensin-converting enzyme inhibitors ACEIs] or angiotensin receptor blockers ARBs], and sodium-glucose cotransporter 2 SGLT2] inhibitors and/or glucagon-like peptide 1 receptor agonists GLP-1RAs]); **Design, Setting, and Participants:** Cluster randomized clinical trial with 43 US cardiology clinics recruiting participants from July 2019 through May 2022 and follow-up through December 2022. The participants were adults with type 2 diabetes and atherosclerotic cardiovascular disease not already taking all 3 groups of evidence-based therapies.; **Interventions:** Assessing local barriers, developing care pathways, coordinating care, educating clinicians, reporting data back to the clinics, and providing tools for participants (n = 459) vs usual care per practice guidelines (n = 590).; **Main Outcomes and Measures:** The primary outcome was the proportion of participants prescribed all 3 groups of recommended therapies at 6 to 12 months after enrollment. The secondary outcomes included changes in atherosclerotic cardiovascular disease risk factors and a composite outcome of all-cause death or hospitalization for myocardial infarction, stroke, decompensated heart failure, or urgent revascularization (the trial was not powered to show these differences).; **Results:** Of 1049 participants enrolled (459 at 20 intervention clinics and 590 at 23 usual care clinics), the median age was 70 years and there were 338 women (32.2%), 173 Black participants (16.5%), and 90 Hispanic participants (8.6%). At the last follow-up visit (12 months for 97.3% of participants), those in the intervention group were more likely to be prescribed all 3 therapies (173/457 37.9%) vs the usual care group (85/588 14.5%), which is a difference of 23.4% (adjusted odds ratio OR, 4.38 95% CI, 2.49 to 7.71]; P < .001) and were more likely to be prescribed each of the 3 therapies (change from baseline in high-intensity statins from 66.5% to 70.7% for intervention vs from 58.2% to 56.8% for usual care adjusted OR, 1.73; 95% CI, 1.06-2.83]; ACEIs or ARBs: from 75.1% to 81.4% for intervention vs from 69.6% to 68.4% for usual care adjusted OR, 1.82; 95% CI, 1.14-2.91]; SGLT2 inhibitors and/or GLP-1RAs: from 12.3% to 60.4% for intervention vs from 14.5% to 35.5% for usual care adjusted OR, 3.11; 95% CI, 2.08-4.64]). The intervention was not associated with changes in atherosclerotic cardiovascular disease risk factors. The composite secondary outcome occurred in 23 of 457 participants (5%) in the intervention group vs 40 of 588 participants (6.8%) in the usual care group (adjusted hazard ratio, 0.79 95% CI, 0.46 to 1.33]); **Conclusions and Relevance:** A coordinated, multifaceted intervention increased prescription of 3 groups of evidence-based therapies in adults with type 2 diabetes and atherosclerotic cardiovascular disease.; **Trial Registration:** ClinicalTrials.gov Identifier: NCT03936660.

Access or request full text: <https://libkey.io/10.1001/jama.2023.2854>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36877177&custid=ns023446>

38. Use of Virtual Reality and Videogames in the Physiotherapy Treatment of Stroke Patients: A Pilot Randomized Controlled Trial

Item Type: Journal Article

Authors: Peláez-Vélez, Francisco-Javier;Eckert, Martina;Gacto-Sánchez, Mariano and Martínez-Carrasco, Ángel

Publication Date: 2023

Journal: International Journal of Environmental Research and Public Health 20(6)

Abstract: A stroke is a neurological condition with a high impact in terms of physical disability in the adult population, requiring specific and effective rehabilitative approaches. Virtual reality (VR), a technological approach in constant evolution, has great applicability in many fields of rehabilitation, including strokes. The aim of this study was to analyze the effects of a traditional neurological physiotherapy-based approach combined with the implementation of a specific VR-based program in the treatment of patients following rehabilitation after a stroke. Participants (n = 24) diagnosed with a stroke in the last six months were randomly allocated into a control group (n = 12) and an experimental group (n = 12). Both groups received one-hour sessions of neurological physiotherapy over 6 weeks, whilst the experimental group was, in addition, supplemented with VR. Patients were assessed through the Daniels and Worthingham Scale, Modified Ashworth Scale, Motor Index, Trunk Control Test, Tinetti Balance Scale, Berg Balance Scale and the Functional Ambulation Classification of the Hospital of Sagunto. Statistically significant improvements were obtained in the experimental group with respect to the control group on the Motricity Index (p = 0.005), Trunk Control Test (p = 0.008), Tinetti Balance Scale (p = 0.004), Berg Balance Scale (p = 0.007) and the Functional Ambulation Classification of the Hospital of Sagunto (p = 0.038). The use of VR in addition to the traditional physiotherapy approach is a useful strategy in the treatment of strokes.

Access or request full text: <https://libkey.io/10.3390/ijerph20064747>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36981652&custid=ns023446>

39. Social network interventions to support cardiac rehabilitation and secondary prevention in the management of people with heart disease

Item Type: Journal Article

Authors: Purcell, Carrie;Dibben, Grace;Hilton Boon, Michele;Matthews, Lynsay;Palmer, Victoria J.;Thomson, Meigan;Smillie, Susie;Simpson, Sharon A. and Taylor, Rod S.

Publication Date: 2023

Journal: The Cochrane Database of Systematic Reviews 6, pp. CD013820

Abstract: Background: Globally, cardiovascular diseases (CVD, that is, coronary heart (CHD) and circulatory diseases combined) contribute to 31% of all deaths, more than any other cause. In line with guidance in the UK and globally, cardiac rehabilitation programmes are widely offered to people with heart disease, and include psychosocial, educational, health behaviour change, and risk management components. Social support and social network interventions have potential to improve outcomes of these programmes, but whether and how these interventions work is poorly understood. **OBJECTIVES:** To assess the effectiveness of social network and social support interventions to support cardiac rehabilitation and secondary prevention in the management of people with heart disease. The comparator was usual care with no element of social support (i.e. secondary prevention alone or with cardiac rehabilitation). **SEARCH METHODS:** We undertook a systematic search of the following databases on 9 August 2022: CENTRAL, MEDLINE, Embase, and the Web of Science. We also searched ClinicalTrials.gov and the WHO ICTRP. We reviewed the reference lists of relevant systematic reviews and included primary studies, and we contacted experts to identify additional studies. **SELECTION CRITERIA:** We included randomised controlled trials (RCTs) of social network or social support interventions for people with heart disease. We included studies regardless of their duration of follow-up, and included those reported as full text, published as abstract only, and unpublished data.; **Data Collection and Analysis:** Using Covidence, two review authors independently screened all identified titles. We retrieved full-text study reports and publications marked 'included', and two review authors independently screened these, and conducted data extraction. Two authors independently assessed risk of bias, and assessed the

certainty of the evidence using GRADE. Primary outcomes were all-cause mortality, cardiovascular-related mortality, all-cause hospital admission, cardiovascular-related hospital admission, and health-related quality of life (HRQoL) measured at > 12 months follow-up. **MAIN RESULTS:** We included 54 RCTs (126 publications) reporting data for a total of 11,445 people with heart disease. The median follow-up was seven months and median sample size was 96 participants. Of included study participants, 6414 (56%) were male, and the mean age ranged from 48.6 to 76.3 years. Studies included heart failure (41%), mixed cardiac disease (31%), post-myocardial infarction (13%), post-revascularisation (7%), CHD (7%), and cardiac X syndrome (1%) patients. The median intervention duration was 12 weeks. We identified notable diversity in social network and social support interventions, across what was delivered, how, and by whom. We assessed risk of bias (RoB) in primary outcomes at > 12 months follow-up as either 'low' (2/15 studies), 'some concerns' (11/15), or 'high' (2/15). 'Some concerns' or 'high' RoB resulted from insufficient detail on blinding of outcome assessors, data missingness, and absence of pre-agreed statistical analysis plans. In particular, HRQoL outcomes were at high RoB. Using the GRADE method, we assessed the certainty of evidence as low or very low across outcomes. Social network or social support interventions had no clear effect on all-cause mortality (risk ratio (RR) 0.75, 95% confidence interval (CI) 0.49 to 1.13, $I^2 = 40\%$) or cardiovascular-related mortality (RR 0.85, 95% CI 0.66 to 1.10, $I^2 = 0\%$) at > 12 months follow-up. The evidence suggests that social network or social support interventions for heart disease may result in little to no difference in all-cause hospital admission (RR 1.03, 95% CI 0.86 to 1.22, $I^2 = 0\%$), or cardiovascular-related hospital admission (RR 0.92, 95% CI 0.77 to 1.10, $I^2 = 16\%$), with a low level of certainty. The evidence was very uncertain regarding the impact of social network interventions on HRQoL at > 12 months follow-up (SF-36 physical component score: mean difference (MD) 31.53, 95% CI -28.65 to 91.71, $I^2 = 100\%$, 2 trials/comparisons, 166 participants; mental component score MD 30.62, 95% CI -33.88 to 95.13, $I^2 = 100\%$, 2 trials/comparisons, 166 participants). Regarding secondary outcomes, there may be a decrease in both systolic and diastolic blood pressure with social network or social support interventions. There was no evidence of impact found on psychological well-being, smoking, cholesterol, myocardial infarction, revascularisation, return to work/education, social isolation or connectedness, patient satisfaction, or adverse events. Results of meta-regression did not suggest that the intervention effect was related to risk of bias, intervention type, duration, setting, and delivery mode, population type, study location, participant age, or percentage of male participants. **AUTHORS' CONCLUSIONS:** We found no strong evidence for the effectiveness of such interventions, although modest effects were identified in relation to blood pressure. While the data presented in this review are indicative of potential for positive effects, the review also highlights the lack of sufficient evidence to conclusively support such interventions for people with heart disease. Further high-quality, well-reported RCTs are required to fully explore the potential of social support interventions in this context. Future reporting of social network and social support interventions for people with heart disease needs to be significantly clearer, and more effectively theorised, in order to ascertain causal pathways and effect on outcomes. (Copyright © 2023 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.)

Access or request full text: <https://libkey.io/10.1002/14651858.CD013820.pub2>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37378598&custid=ns023446>

40. Revascularisation in acute coronary syndromes: change in practice?

Item Type: Journal Article

Authors: Pustjens, Tobias F. S.; Vriesendorp, Pieter A. and van't Hof, Arnoud, W.J.

Publication Date: 2023

Journal: Lancet 401(10383), pp. 1133-1135

Access or request full text: [https://libkey.io/10.1016/S0140-6736\(23\)00403-8](https://libkey.io/10.1016/S0140-6736(23)00403-8)

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=162920200&custid=ns0234>

41. The effectiveness of cognitive-behavioral therapy for heart failure patients: a narrative review

Item Type: Journal Article

Authors: Rajasree Katta, Maanya;Prasad, Sakshi;Tiwari, Atit;Abdelgawad Abouzid, Mohamed Riad and Mitra, Saloni

Publication Date: 2023

Journal: The Journal of International Medical Research 51(9), pp. 3000605231198371

Abstract: Heart failure (HF) remains a major cause of morbidity, mortality and healthcare costs, despite available treatments. Psychological issues such as depression, anxiety and poor self-care are prevalent in HF patients. Such issues adversely affect patients' daily lives and increase hospitalization and mortality rates; therefore, effective approaches to address these are needed. Cognitive-behavioral therapy (CBT) has been proposed as potentially useful for psychological comorbidities in HF patients, but its efficacy is not well-established. This narrative review aimed to summarize the evidence on the effectiveness of CBT for HF patients. A search was conducted using PubMed and Google Scholar for randomized controlled trials (RCTs) on CBT for HF patients. Ten studies (nine RCTs and one case study) were included in the review. CBT was found to be an effective intervention for managing depression, anxiety, low quality of life, and impaired social and physical functioning in HF patients. The results suggest that CBT can improve psychological well-being and enhance the benefits of rehabilitation programs. Face-to-face CBT appears to be superior to conventional therapy and can be implemented in cardiac rehabilitation settings. Further research is needed to evaluate the efficacy of internet-based CBT for cardiac patients and identify factors that promote treatment adherence.

Access or request full text: <https://libkey.io/10.1177/03000605231198371>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37694958&custid=ns023446>

42. Inflammation and cholesterol as predictors of cardiovascular events among patients receiving statin therapy: a collaborative analysis of three randomised trials

Item Type: Journal Article

Authors: Ridker, Paul M.;Bhatt, Deepak L.;Pradhan, Aruna D.;Glynn, Robert J.;MacFadyen, Jean G. and Nissen, Steven E.

Publication Date: 2023

Journal: Lancet 401(10384), pp. 1293-1301

Access or request full text: [https://libkey.io/10.1016/S0140-6736\(23\)00215-5](https://libkey.io/10.1016/S0140-6736(23)00215-5)

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=163087668&custid=ns023446>

43. Comparative effect of varenicline and nicotine patches on preventing repeat cardiovascular events

Item Type: Journal Article

Authors: Robijn, Annelies L.;Filion, Kristian B.;Woodward, Mark;Hsu, Benjumin;Chow, Clara K.;Pearson, Sallie-Anne;Jorm, Louisa;Falster, Michael O. and Havard, Alys

Publication Date: 2023

Journal: Heart (British Cardiac Society) 109(13), pp. 1016-1024

Abstract: Objective: To determine the comparative effectiveness of postdischarge use of varenicline versus prescription nicotine replacement therapy (NRT) patches for the prevention of recurrent cardiovascular events and mortality and whether this association differs by sex.; **Methods:** Our cohort study used routinely collected hospital, pharmaceutical dispensing and mortality data for residents of New South Wales, Australia. We included patients hospitalised for a major cardiovascular event or procedure 2011-2017, who were dispensed varenicline or prescription NRT patches within 90day postdischarge. Exposure was defined using an approach analogous to intention to treat. Using inverse probability of treatment weighting with propensity scores to account for confounding, we estimated adjusted HRs for major cardiovascular events (MACEs), overall and by sex. We fitted an additional model with a sex-treatment interaction term to determine if treatment effects differed between males and females.; **Results:** Our cohort of 844 varenicline users (72% male, 75% <65 years) and 2446 prescription NRT patch users (67% male, 65% <65 years) were followed for a median of 2.93 years and 2.34 years, respectively. After weighting, there was no difference in risk of MACE for varenicline relative to prescription NRT patches (aHR 0.99, 95% CI 0.82 to 1.19). We found no difference (interaction p=0.098) between males (aHR 0.92, 95% CI 0.73 to 1.16) and females (aHR 1.30, 95% CI 0.92 to 1.84), although the effect among females deviated from the null.; **Conclusion:** We found no difference between varenicline and prescription NRT patches in the risk of recurrent MACE. These results should be considered when determining the most appropriate choice of smoking cessation pharmacotherapy.; **Competing Interests:** Competing interests: MW is consultant to Amgen, Kyowa Kirin and Freeline. (© Author(s) (or their employer(s)) 2023. No commercial re-use. See rights and permissions. Published by BMJ.)

Access or request full text: <https://libkey.io/10.1136/heartjnl-2022-322170>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36878673&custid=ns023446>

44. How German vascular surgeons and angiologists judge walking exercise for patients with PAD

Item Type: Journal Article

Authors: Rother, Ulrich;Dörr, Gesine;Malyar, Nasser;Müller, Oliver,J.;Steinbauer, Markus;Ito, Wulf;Cotta, Livia;Espinola-Klein, Christine;Heckenkamp, J. örg and Behrendt, Christian-Alexander

Publication Date: 2023

Journal: VASA.Zeitschrift Fur Gefasskrankheiten 52(4), pp. 224-229

Abstract: Background: To determine the physician's perspective and perception on walking exercise as well as barriers in guideline-directed best medical treatment of patients with lower extremity peripheral arterial disease (PAD). **Patients and methods:** All members of the German Society for Vascular Surgery and Vascular Medicine and of the German Society for Angiology - Society for Vascular Medicine with valid email address were invited to participate in an electronic survey on walking exercise for treatment of intermittent claudication that was developed by the authors. **Results:** Amongst 3910 invited participants, 743 (19%) provided valid responses (33% females, 84% vascular surgery, 15% angiology). Thereof, 65% were employed by non-university hospitals, 16% by university institutions, and 18% by outpatient facilities. A mean of 14 minutes were spent per patient to counsel and educate, while only 53% responded they had enough time in everyday clinical practice. While 98% were aware of the beneficial impact of structured exercise training (SET) on pain free walking distance and 90% advise their patients to adhere to SET, only

44% provided useful guidance to patients to find local SET programmes and merely 42% knew how to prescribe SET as service that can be reimbursed by medical insurances. Approximately 35% knew a local SET programme and appropriate contact person. Health-related quality of life was assessed in a structured way by only 11%. Forty-seven percent responded that medical insurances should be responsible to implement and maintain SET programmes, while only 4% held hospital physicians responsible to achieve this task. **Conclusions:** This nationwide survey study amongst vascular specialists illustrates the current insufficient utilisation of SET as an evidence-based therapeutic cornerstone in patients with lower extremity PAD in Germany. The study also identified several barriers and flaws from the physician's perspectives which should be addressed collectively by all health care providers aiming to increase the SET use and eventually its' impact on patients with PAD.

Access or request full text: <https://libkey.io/10.1024/0301-1526/a001071>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37114353&custid=ns023446>

45. Can triage nurses accurately interpret the electrocardiogram in the emergency department to predict acute cardiovascular events? A prospective observational study

Item Type: Journal Article

Authors: Sibilio, Serena;Zaboli, Arian;Magnarelli, Gabriele;Canelles, Massimiliano Fanni;Rella, Eleonora;Pfeifer, Norbert;Brigo, Francesco and Turcato, Gianni

Publication Date: 2023

Journal: Journal of Advanced Nursing (John Wiley & Sons, Inc.) 79(7), pp. 2643-2653

Abstract: Aims: The prompt recording of the electrocardiogram (ECG) and its correct interpretation is crucial to the management of patients who present to the emergency department (ED) with cardiovascular symptoms. Since triage nurses represent the first healthcare professionals evaluating the patient, improving their ability in interpreting the ECG could have a positive impact on clinical management. This real-world study investigates whether triage nurses can accurately interpret the ECG in patients presenting with cardiovascular symptoms. **Design:** Prospective, single-centre observational study conducted in a general ED of General Hospital of Merano in Italy. **Methods:** For all patients included, the triage nurses and the emergency physicians were asked to independently interpret and classify the ECGs answering to dichotomous questions. We correlated the interpretation of the ECG made by the triage nurses with the occurrence of acute cardiovascular events. The inter-rater agreement in ECG interpretation between physicians and triage nurses was evaluated with Cohen's kappa analysis. Results: Four hundred and ninety-one patients were included. The inter-rater agreement between triage nurses and physicians in classifying an ECG as abnormal was good. Patients who developed an acute cardiovascular event were 10.6% (52/491), and in 84.6% (44/52) of them, the nurse accurately classified the ECG as abnormal, with a sensitivity of 84.6% and a specificity of 43.5%. **Conclusion:** Triage nurses have a moderate ability in identifying alterations in specific components of the ECG but a good ability in identifying patterns indicative of time-dependent conditions correlated with major acute cardiovascular events. Impact for Nursing: Triage nurses can accurately interpret the ECG in the ED to identify patients at high risk of acute cardiovascular events. Reporting Method: The study was reported according to the STROBE guidelines. No Patient or Public Contribution: The study did not involve any patients during its conduction.

Access or request full text: <https://libkey.io/10.1111/jan.15616>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=164396396&custid=ns023446>

46. The Combination of Beta-Blockers and ACE Inhibitors Across the Spectrum of Cardiovascular Diseases.

Item Type: Journal Article

Authors: Strauss, M. H.; Hall, A. S. and Narkiewicz, K.

Publication Date: 2023

Journal: Cardiovascular Drugs and Therapy 37(4), pp. 757-770

Abstract: Cardiovascular disease is the leading cause of mortality worldwide, affecting a wide range of patients at different stages across the cardiovascular continuum. Hypertension is one of the earliest risk factors in this continuum and can be controlled in most patients with currently available antihypertensive agents. However, goals are often not met because treatments are not optimized in terms of tailoring therapy to individual patients based on their hypertension subclass and cardiovascular risk profile and initiating early use of adapted-dose, single-pill combinations. In this context, beta-blockers in combination with angiotensin-converting enzyme (ACE) inhibitors are of special interest as a result of their complementary actions on the sympathetic nervous system and renin-angiotensin-aldosterone system, two interlinked pathways that influence cardiovascular risk and disease outcomes. In addition to their antihypertensive actions, beta-blockers are used to manage arrhythmias and treat angina pectoris and heart failure, while ACE inhibitors provide cardioprotection in patients with acute coronary syndromes and treat congestive heart failure. A broad range of patients may therefore receive the combination in routine clinical practice. This paper examines the supporting evidence for beta-blockers and ACE inhibitors in each of the above indications and considers the rationale for combining these agents into a single pill, using data from bisoprolol and perindopril randomized controlled trials as supporting evidence. Combining these established antihypertensive agents into a single pill continues to provide effective blood pressure lowering and improved cardiovascular outcomes while allowing a greater proportion of patients to rapidly achieve treatment targets.

URL: <https://libkey.io/libraries/1293/openurl?genre=article&sid=OVID:embase&id=pmid:34533690&id=doi:10.1007%2Fs10557-021-07248-1&issn=0920-3206&isbn=&volume=37&issue=4&spage=757&pages=757-770&date=2023&title=Cardiovascular+Drugs+and+Therapy&atitle=The+Combination+of+Beta-Blockers+and+ACE+Inhibitors+Across+the+Spectrum+of+Cardiovascular+Diseases&aulast=Strauss&pid=%3Cauthor%3EStrauss+M.H.%3BHall+A.S.%3BNarkiewicz+K.%3C%2Fauthor%3E%3CAN%3E2013726287%3C%2FAN%3E%3CDT%3EReview%3C%2FDT%3E>

47. Optimal outcomes from cardiac rehabilitation are associated with longer-term follow-up and risk factor status at 12 months: An observational registry-based study

Item Type: Journal Article

Authors: Tang, Lars Hermann; Doherty, Patrick; Skou, Søren T. and Harrison, Alexander

Publication Date: 2023

Journal: International Journal of Cardiology 386, pp. 134-140

Abstract: **Aim:** The purpose of Cardiac Rehabilitation (CR) is to promote and reduce risk factors in the short and long term, however, the latter has, to date, been poorly evaluated. We explored characteristics associated with provision and outcomes of a long-term assessment in CR.; **Method:** Data from the UK National Audit of CR between April 2015 and March 2020 was used. Programmes were selected if they had an established mechanism and routine methodology to collect the 12-month assessments. Risk factors pre and post phase II CR and at the 12-month assessment were explored; BMI ≤ 30 , ≥ 150 min of physical activity per week, hospital anxiety and depression scale (HADS) scores < 8 . The data came from 32 programmes, 24,644 patients with coronary heart disease. Patients being

in at least one optimal risk factor stage throughout phase II CR (OR = 1.43 95% CI 1.28 to 1.59) or successfully reaching an optimal stage during phase II CR (OR = 1.61 95% CI 1.44 to 1.80) had an increased likelihood of being assessed at 12 months compared to those who did not. Patients being in the optimal stage upon completion of phase II CR had an increased likelihood of still being in the optimal stage at 12 months. Most prominent was BMI; (OR = 14.6 (95% CI 11.1 to 19.2) for patients reaching an optimal stage throughout phase II CR.; **Conclusion:** Being in an optimal stage upon routine CR completion could be an overlooked predictor in the provision of a long-term CR service and prediction of longer-term risk factor status.; Competing Interests: Declaration of Competing Interest The authors report no relationships that could be construed as a conflict of interest. (Copyright © 2023 The Author(s). Published by Elsevier B.V. All rights reserved.)

Access or request full text: <https://libkey.io/10.1016/j.ijcard.2023.05.028>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=37201610&custid=ns023446>

48. A Systematic Review and Meta-Analysis of the Relationship between Receiving the Flu Vaccine with Acute Cerebrovascular Accident and Its Hospitalization in the Elderly

Item Type: Journal Article

Authors: Tavabe, Nilay Rezaei;Kheiri, Soleiman;Dehghani, Mohsen and Mohammadian-Hafshejani, Abdollah

Publication Date: 2023

Journal: BioMed Research International 2023, pp. 2606854

Abstract: Background and Aims: In recent years, various studies have been conducted worldwide to investigate the relationship between receiving the flu vaccine with acute cerebrovascular accident or stroke and its hospitalization in the elderly; however, the results of these studies are contradictory. Therefore, this study was aimed at investigating the relationship between receiving the flu vaccine with stroke and its hospitalization in the elderly.; **Methods:** This study is a systematic review and meta-analysis of studies examining the relationship between receiving the flu vaccine with stroke and its hospitalization in the elderly during the years 1980 to 2021 which have been published in ISI Web of Science, Scopus PubMed, Cochrane, Science Direct, Google Scholar, and Embase. All analyses were performed by Stata 15, and the significance level in this study was considered <0.05 .; **Results:** In the systematic search, 3088 articles were retrieved, considering the study criteria; finally, 14 studies were included in the meta-analysis. Based on the results of the meta-analysis, the odds ratio (OR) of occurrence and hospitalization of stroke compared to the nonvaccinated group in vaccine recipients is equal to 0.84 (95% confidence interval (CI): 0.78-0.90, P value ≤ 0.001). Publication bias was not observed in this study (P value = 0.101).; **Conclusion:** Getting the flu vaccine can reduce the risk of occurrence and hospitalization of stroke in the elderly by 16% (10%-22%). Therefore, receiving this vaccine as a preventive intervention for stroke in the elderly may be promising.; Competing Interests: There is no conflict of interest in this study. (Copyright © 2023 Nilay Rezaei Tavabe et al.)

Access or request full text: <https://libkey.io/10.1155/2023/2606854>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36814798&custid=ns023446>

49. Association of Accelerometer-Measured Physical Activity Level With Risks of Hospitalization for 25 Common Health Conditions in UK Adults

Item Type: Journal Article

Authors: Watts, Eleanor L.;Saint-Maurice, Pedro;Doherty, Aiden;Fensom, Georgina K.;Freeman, Joshua R.;Gorzelitz, Jessica S.;Jin, David;McClain, Kathleen M.;Papier, Keren;Patel, Shreya;Shiroma, Eric J.;Moore, Steven C. and Matthews, Charles E.

Publication Date: 2023

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Abstract: Importance: Higher physical activity levels are associated with lower risks of cancer, cardiovascular disease, and diabetes, but associations with many common and less severe health conditions are not known. These conditions impose large health care burdens and reduce quality of life.; **Objectives:** To investigate the association between accelerometer-measured physical activity and the subsequent risk of hospitalization for 25 common reasons for hospitalization and to estimate the proportion of these hospitalizations that might have been prevented if participants had higher levels of physical activity.; **Design, Setting, and Participants:** This prospective cohort study used data from a subset of 81 717 UK Biobank participants aged 42 to 78 years. Participants wore an accelerometer for 1 week (between June 1, 2013, and December 23, 2015) and were followed up over a median (IQR) of 6.8 (6.2-7.3) years; follow-up for the current study ended in 2021 (exact date varied by location).; **Exposures:** Mean total and intensity-specific accelerometer-measured physical activity.; **Main Outcomes and Measures:** Hospitalization for the most common health conditions. Cox proportional hazards regression analysis was used to estimate hazard ratios (HRs) and 95% CIs for mean accelerometer-measured physical activity (per 1-SD increment) and risks of hospitalization for 25 conditions. Population-attributable risks were used to estimate the proportion of hospitalizations for each condition that might be prevented if participants increased their moderate to vigorous physical activity (MVPA) by 20 minutes per day.; **Results:** Among 81 717 participants, the mean (SD) age at accelerometer assessment was 61.5 (7.9) years; 56.4% were female, and 97.0% self-identified as White. Higher levels of accelerometer-measured physical activity were associated with lower risks of hospitalization for 9 conditions: gallbladder disease (HR per 1 SD, 0.74; 95% CI, 0.69-0.79), urinary tract infections (HR per 1 SD, 0.76; 95% CI, 0.69-0.84), diabetes (HR per 1 SD, 0.79; 95% CI, 0.74-0.84), venous thromboembolism (HR per 1 SD, 0.82; 95% CI, 0.75-0.90), pneumonia (HR per 1 SD, 0.83; 95% CI, 0.77-0.89), ischemic stroke (HR per 1 SD, 0.85; 95% CI, 0.76-0.95), iron deficiency anemia (HR per 1 SD, 0.91; 95% CI, 0.84-0.98), diverticular disease (HR per 1 SD, 0.94; 95% CI, 0.90-0.99), and colon polyps (HR per 1 SD, 0.96; 95% CI, 0.94-0.99). Positive associations were observed between overall physical activity and carpal tunnel syndrome (HR per 1 SD, 1.28; 95% CI, 1.18-1.40), osteoarthritis (HR per 1 SD, 1.15; 95% CI, 1.10-1.19), and inguinal hernia (HR per 1 SD, 1.13; 95% CI, 1.07-1.19), which were primarily induced by light physical activity. Increasing MVPA by 20 minutes per day was associated with reductions in hospitalization ranging from 3.8% (95% CI, 1.8%-5.7%) for colon polyps to 23.0% (95% CI, 17.1%-28.9%) for diabetes.; **Conclusions and Relevance:** In this cohort study of UK Biobank participants, those with higher physical activity levels had lower risks of hospitalization across a broad range of health conditions. These findings suggest that aiming to increase MVPA by 20 minutes per day may be a useful nonpharmaceutical intervention to reduce health care burdens and improve quality of life.

Access or request full text: <https://libkey.io/10.1001/jamanetworkopen.2022.56186>

URL: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=36795414&custid=ns023446>

50. Development and validation of the Care Transitions Scale for Patients with Heart Failure: A tool for nurses to assess patients' readiness for hospital discharge

Item Type: Journal Article

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Abstract: **Aim:** This study aimed to develop and assess the validity and reliability of the Care Transitions Scale for Patients with Heart Failure (CTS-HF) as a nurse-reported measure for evaluating patients' readiness for hospital discharge. **Methods:** We conducted a cross-sectional study of cardiovascular ward nurses from 163 hospitals across Japan. Structural validity was assessed using exploratory factor analysis with development participants and confirmatory factor analysis with validation participants. Convergent validity was assessed by correlation with the Discharge Planning of Ward Nurses scale (DPWN). Hypotheses testing for construct validity was performed as comparisons between subgroups of transitional care practice. **Results:** Valid responses were obtained from 704 nurses (development participants, n = 352; validation participants, n = 352). The final scale comprised 21 items divided into six factors: "Clear preparation for how to manage health at home," "Adjusting to home care/support system," "Transitions of medication management from hospital to home," "Dealing with patients' concerns and questions," "Transitions of disease management from hospital to home," and "Family support." Indices of fit supported these results (comparative fit index = 0.944, root mean square error of approximation = 0.057). The CTS-HF was significantly correlated with the DPWN. The nurses' subgroup with higher transitional care practice had higher CTS-HF scores. Cronbach's alpha was .93 for the CTS-HF. **Conclusions:** The CTS-HF showed sufficient reliability and validity for use in evaluating discharge care. Further studies are needed regarding the usefulness of this scale in nursing practice.

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