

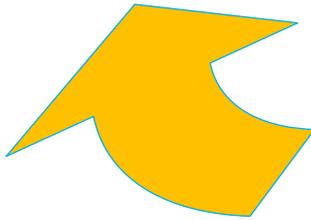


Keeping you up-to-date
with what's new

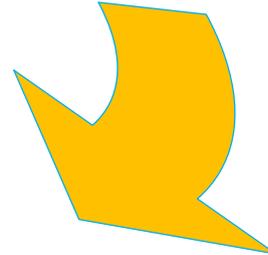


We will search the
evidence to help you and
save your time

CORONARY CARE UPDATE 5: Summer 2017



Electronic resources and
healthcare databases:
Contact us for training



Welcome to the latest copy of this Update. The aims of this publication are:

- ❖ To bring together a range of recently-published research reports, articles and electronic resources to help all staff keep up-to-date with research and practice.
- ❖ To remind readers of the services available from the Library and Knowledge Service – we can supply you with 1:1 or small group training in evidence searching skills; obtain full-text articles for you; or provide you with an evidence search service to help you with your evidence based practice, patient care, decision making and research.
- ❖ To respond to your information needs – if you have any suggestions on the type of information sources you would find helpful in future editions of the Update, then please let us know.

OpenAthens

Athens passwords allow you to download the full text of articles, where the Trust has a subscription to the appropriate publisher. These are noted at the end of an abstract. You will need an Athens username and password to use the system, to register please log on to:

<https://openathens.nice.org.uk/>

If you would like help in registering and using OpenAthens accounts, please contact your Outreach Librarian to make an appointment:

If you work at **Macclesfield DGH, Knutsford or Congleton Hospitals**: Anne Webb (Clinical Outreach Librarian) anne.webb12@nhs.net , or phone ext. 3398.

If you work in the **community**: Steve Collman (Community Outreach Librarian)
steve.collman@nhs.net , or phone ext. 1547

Accessing Articles

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

If the article is available electronically, this is noted in the Abstract. [Press CTRL-click to open the link. You will need to be registered for OpenAthens (see above) to be able to access the full text.]

If the full text is not available electronically we may be able to obtain the document through our document supply services. Steve or Anne can advise you how to obtain them, our contact details are below.

If you would like to order a copy of the full paper:

Please contact the Library & Knowledge Service, details below. There is usually a small charge for using the document supply services.

Library & Knowledge Service

We are located on 2nd floor, New Alderley House. We are staffed from 8.30 am – 5.00 pm Monday-Thursday and 8.30 am – 4.30 pm on Friday. There is also 24hr access available and a self-service kiosk.

Contacts

General library enquiries: ext. 1362

Library e-mail for general enquiries requesting articles and documents:

ecn-tr.stafflibrary@nhs.net

Library website: <http://www.eastcheshirenhslibrary.net/>

Outreach Librarians:

- Steve Collman - Community Outreach Librarian: ext. 1547 e mail: steve.collman@nhs.net
- Anne Webb - Clinical Outreach Librarian: Ext 3398 email: anne.webb12@nhs.net

Feedback

We are always happy to receive your suggestions. If you have any new topics or areas of care that you would like to be added or developed into a separate update please contact us. We also have other services available at <http://www.eastcheshirenhslibrary.net/keep-up-to-date.html>

Please send your feedback or suggestions for the update to anne.webb12@nhs.net

Contents

DIAGNOSTICS	4
ELDERLY	8
EXERCISE	11
INTERVENTIONS	23
REHABILITATION	30
OTHER	38
NICE GUIDANCE- UPDATES ETC.	49

Articles

*Healthcare Database – Articles found in Medline, CINAHL
(Selection of articles published: July 2016 – July 2017)*

DIAGNOSTICS

1. Saliva and plasma levels of cardiac-related biomarkers in post-myocardial infarction patients.

Author(s): Rathnayake, Nilminie; Buhlin, Kåre; Kjellström, Barbro; Klinge, Bjorn; Löwbeer, Christian; Norhammar, Anna; Rydén, Lars; Sorsa, Timo; Tervahartiala, Taina; Gustafsson, Anders

Source: Journal of Clinical Periodontology; Jul 2017; vol. 44 (no. 7); p. 692-699

Publication Date: Jul 2017

Publication Type(s): Academic Journal

Available in full text at [Journal of Clinical Periodontology](#) - from John Wiley and Sons

Abstract: Aim To relate cardiac biomarkers, such as cystatin C and growth differentiation factor-15 (GDF-15) in saliva to myocardial infarction (MI) and to periodontal status, and to investigate the relation between salivary and plasma cardiac biomarkers. Materials and Methods Two hundred patients with MI admitted to coronary care units and 200 matched controls without MI were included. Dental examination and collection of blood and saliva samples was performed 6-10 weeks after the MI for patients and in close proximity thereafter for controls. Analysing methods: ARCHITECT i4000 SR, Immulite 2000 XPi or ELISA. Results The mean age was 62 ± 8 years and 84% were male. Total probing pocket depth, fibrinogen, white blood cell counts and HbA1c were higher in patients than controls. GDF-15 levels correlated with most of the included clinical variables in both study groups. No correlation was found between plasma and saliva levels of cystatin C or GDF-15. Conclusion Salivary cystatin C and GDF-15 could not differentiate between MI patients and controls.

Database: CINAHL

2. The Value of Detecting Asymptomatic Signs of Myocardial Ischemia in Patients With Coronary Artery Disease in Outpatient Cardiac Rehabilitation.

Author(s): Lounsbury, Patricia; Elokda, Ahmed S.; Bunning, Jennifer M.; Arena, Ross; Gordon, Ellen E. I.

Source: Journal of Cardiovascular Nursing; May 2017; vol. 32 (no. 3)

Publication Date: May 2017

Publication Type(s): Academic Journal

Abstract: Background: Electrocardiographic (ECG) monitored outpatient cardiac rehabilitation (OP-CR) is routinely performed following a variety of cardiovascular procedures and conditions. Objective: The aim of this study is to determine if diagnostic-quality ECG monitoring in patients with coronary artery disease (CAD) during OP-CR is useful in identifying asymptomatic myocardial ischemia, resulting in change(s) in care or medical management. Methods: A retrospective analysis of ECG monitoring was done on all OP-CR patients diagnosed with CAD (n = 1213) from January 2000 through June 2013. Results: Nearly a quarter of the patients (24%; n = 288) displayed at least 1 mm of asymptomatic ST-segment depression at 80 milliseconds after the J-point during at least 1 session of OP-CR. Of these patients, 57% had medical management change(s) compared with 24% for those who did not show ECG changes suggesting ischemia (P < .0001). In patients with asymptomatic ischemia having medical management change(s), 84% resulted directly from OP-CR staff detection. Fewer patients diagnosed with myocardial infarction and coronary artery bypass graft surgery demonstrated ECG signs of ischemia, whereas more patients diagnosed with stable angina and percutaneous coronary interventions demonstrated ECG signs of ischemia. Conclusion: This study demonstrates that most patients with CAD showing asymptomatic ECG signs suggesting ischemia undergo medical management change(s) as a result of the finding. Diagnostic-quality ECG monitoring during OP-CR appears warranted in this population.

Database: CINAHL

3. Effect of Using the HEART Score in Patients With Chest Pain in the Emergency Department: A Stepped-Wedge, Cluster Randomized Trial.

Author(s): Poldervaart, Judith M; Reitsma, Johannes B; Backus, Barbra E; Koffijberg, Hendrik; Veldkamp, Rolf F; Ten Haaf, Monique E; Appelman, Yolande; Mannaerts, Herman F J; van Dantzig, Jan-Melle; van den Heuvel, Madelon; El Farissi, Mohamed; Rensing, Bernard J W M; Ernst, Nicolette M S K J; Dekker, Ineke M C; den Hartog, Frank R; Oosterhof, Thomas; Lagerweij, Ghizelda R; Buijs, Eugene M; van Hessen, Maarten W J; Landman, Marcel A J; van Kimmenade, Roland R J; Cozijnsen, Luc; Bucx, Jeroen J; van Ofwegen-Hanekamp, Clara E; Cramer, Maarten-Jan; Six, A Jacob; Doevendans, Pieter A; Hoes, Arno W

Source: Annals of internal medicine; May 2017; vol. 166 (no. 10); p. 689-697

Publication Date: May 2017

Publication Type(s): Randomized Controlled Trial Journal Article

PubMedID: 28437795

Available in full text at [Annals of internal medicine \[Ann Intern Med\] NLMUID: 0372351](#) - from EBSCOhost

Abstract: BackgroundThe HEART (History, Electrocardiogram, Age, Risk factors, and initial Troponin) score is an easy-to-apply instrument to stratify patients with chest pain according to their short-term risk for major adverse cardiac events (MACEs), but its effect on daily practice is unknown. ObjectiveTo measure the effect of use of the HEART score on patient outcomes and use of health care resources. DesignStepped-wedge, cluster randomized trial. (ClinicalTrials.gov: NCT01756846).Setting Emergency departments in 9 Dutch hospitals. Patients Unselected patients with chest pain presenting at emergency departments in 2013 and 2014.InterventionAll hospitals

started with usual care. Every 6 weeks, 1 hospital was randomly assigned to switch to "HEART care," during which physicians calculated the HEART score to guide patient management. Measurements For safety, a noninferiority margin of a 3.0% absolute increase in MACEs within 6 weeks was set. Other outcomes included use of health care resources, quality of life, and cost-effectiveness. Results A total of 3648 patients were included (1827 receiving usual care and 1821 receiving HEART care). Six-week incidence of MACEs during HEART care was 1.3% lower than during usual care (upper limit of the 1-sided 95% CI, 2.1% [within the noninferiority margin of 3.0%]). In low-risk patients, incidence of MACEs was 2.0% (95% CI, 1.2% to 3.3%). No statistically significant differences in early discharge, readmissions, recurrent emergency department visits, outpatient visits, or visits to general practitioners were observed. Limitation Physicians were hesitant to refrain from admission and diagnostic tests in patients classified as low risk by the HEART score. Conclusion Using the HEART score during initial assessment of patients with chest pain is safe, but the effect on health care resources is limited, possibly due to nonadherence to management recommendations. Primary Funding Source Netherlands Organisation for Health Research and Development.

Database: Medline

4. Effect of collection tube type and freeze-thaw cycles on myeloperoxidase concentrations in blood samples of acute coronary syndrome patients.

Author(s): Naz, Saima; Ghafoor, Farkhanda; Iqbal, Imran Akhtar

Source: Annals of clinical biochemistry; May 2017; vol. 54 (no. 3); p. 348-354

Publication Date: May 2017

Publication Type(s): Journal Article

PubMedID: 27422133

Abstract :Background Myeloperoxidase has shown potential as a marker for prognosis of coronary artery disease, but presently little is known about preanalytical handling of samples for quantifying myeloperoxidase. The present study was conducted to evaluate the effect of collection tube and freeze-thaw cycles on myeloperoxidase concentrations. Methods Acute coronary syndrome patients (n = 88) were enrolled after obtaining written informed consent from coronary care unit of a tertiary care hospital (January 2012-June 2014). About 5 mL venous blood was collected from patients and divided into serum, lithium heparin, ethylenediaminetetraacetic acid and sodium citrate tubes. Except serum, all tubes were kept on ice immediately after collection. Samples were centrifuged at -4°C, separated immediately after centrifugation and stored at -40°C until analysis. Myeloperoxidase was quantified by in-house and commercial assays and re-quantified after five freeze-thaw cycles. Results Myeloperoxidase concentrations, (serum samples) determined by commercial and in-house assays correlated well (r = 0.946) (P < 0.001) and were higher in serum samples. Within plasma, myeloperoxidase concentrations were slightly higher in ethylenediaminetetraacetic acid (307.7 ± 52.1) and lower in lithium heparin (290.3 ± 49.2) and sodium citrate (221.4 ± 40.3) but not statistically significant. Correlation between myeloperoxidase concentrations (in-house enzyme-linked immunosorbent assay) after first cycle and fifth freeze-thaw cycle dropped to r = 0.448 (P < 0.001). Conclusion Myeloperoxidase concentrations are comparable in three types of plasma tubes when samples are placed on ice immediately, centrifuged at low temperatures and separated immediately after centrifugation. Multiple freeze-thaw cycles have an effect on myeloperoxidase and should be avoided for quantifying myeloperoxidase.

Database: Medline

5. Association of Serum Magnesium on Mortality in Patients Admitted to the Intensive Cardiac Care Unit.

Author(s): Naksuk, Niyada; Hu, Tiffany; Krittanawong, Chayakrit; Thongprayoon, Charat; Sharma, Sunita; Park, Jae Yoon; Rosenbaum, Andrew N; Gaba, Prakriti; Killu, Ammar M; Sugrue, Alan M; Peeraphatdit, Thoetchai; Herasevich, Vitaly; Bell, Malcolm R; Brady, Peter A; Kapa, Suraj; Asirvatham, Samuel J

Source: The American journal of medicine; Feb 2017; vol. 130 (no. 2); p. 229

Publication Date: Feb 2017

Publication Type(s): Journal Article

PubMedID: 27639872

Abstract: BACKGROUND Although electrolyte disturbances may affect cardiac action potential, little is known about the association between serum magnesium and corrected QT (QTc) interval as well as clinical outcomes. METHODS A consecutive 8498 patients admitted to the Mayo Clinic Hospital-Rochester cardiac care unit (CCU) from January 1, 2004 through December 31, 2013 with 2 or more documented serum magnesium levels, were studied to test the hypothesis that serum magnesium levels are associated with in-hospital mortality, sudden cardiac death, and QTc interval. RESULTS Patients were 67 ± 15 years; 62.2% were male. The primary diagnoses for CCU admissions were acute myocardial infarction (50.7%) and acute decompensated heart failure (42.5%), respectively. Patients with higher magnesium levels were older, more likely male, and had lower glomerular filtration rates. After multivariate analyses adjusted for clinical characteristics including kidney disease and serum potassium, admission serum magnesium levels were not associated with QTc interval or sudden cardiac death. However, the admission magnesium levels ≥ 2.4 mg/dL were independently associated with an increase in mortality when compared with the reference level (2.0 to < 2.2 mg/dL), having an adjusted odds ratio of 1.80 and a 95% confidence interval of 1.25-2.59. The sensitivity analysis examining the association between postadmission magnesium and analysis that excluded patients with kidney failure and those with abnormal serum potassium yielded similar results. CONCLUSION This retrospective study unexpectedly observed no association between serum magnesium levels and QTc interval or sudden cardiac death. However, serum magnesium ≥ 2.4 mg/dL was an independent predictor of increased hospital mortality among CCU patients.

Database: Medline

ELDERLY

6. Challenges in the Management of Geriatric Trauma: A Case Report.

Author(s): Gaebel, Ashley

Source: Journal of Trauma Nursing; Jul 2017; vol. 24 (no. 4); p. 245-250

Publication Date: Jul 2017

Publication Type(s): Academic Journal

Available in full text at [Journal of Trauma Nursing](#) - from EBSCOhost

Abstract:The article describes the case of an 88-year-old Caucasian woman who was presented to the emergency department of a trauma center after a motor vehicle accidents. A workup for geriatric trauma was performed on the woman who was also seen by consults for cardiology and neuropsychology because her medical history included hypertension, hyperlipidemia, and coronary disease post-stent placement. She was discharged to a subacute rehabilitation center for appropriate care.

Database: CINAHL

7. Physical and psychological characteristics of the community-dwelling elderly with heart disease.

Author(s): Kera, Takeshi; Kawai, Hisashi; Yoshida, Hideyo; Hirano, Hirohiko; Kojima, Motonaga; Fujiwara, Yoshinori; Ihara, Kazushige; Obuchi, Shuichi

Source: [Nihon koshu eisei zasshi] Japanese journal of public health; 2017; vol. 64 (no. 1); p. 3-13

Publication Date: 2017

Publication Type(s): Journal Article

PubMedID: 28228632

Abstract: Objectives Although the survival rates of patients with heart diseases, such as myocardial infarction and heart failure, have increased, the incidence of heart disease in elderly individuals has also increased. We compared characteristics of the community-dwelling elderly with heart diseases (heart disease group) and without heart diseases (non-heart disease group). Methods A total of 758 elderly individuals participated in our survey ("Otassa-kensin") in 2014. The heart disease group (47 men, 28 women) and the non-heart disease group (263 men, 420 women) were selected from among these participants. Data on comorbidities, medications, the Kihon check list (KCL), and social background (lifestyle, exercise habits, certification for using long-term care insurance, and Japan Science and Technology Agency Index of Competence [JST-IC]) were obtained through interview. Body composition, grip strength, 5 walking time (usual pace, maximum speed), timed-up and go test (TUG), single-leg standing time, cognitive function, and depression were evaluated to assess physical and psychological function. Frailty was defined by the KCL. For between-groups comparisons, the Student t-test and Mann-Whitney U-test were used. To determine factors related to heart disease

with functional decline, we used a multiple logistic regression analysis with the group (the non-heart disease group [0] and the heart disease group [1]) as the dependent variable and the decline in physical and psychological function as the independent variable. Results Men in the heart disease group had less grip strength, worse balance, and lower JST-IC scores than did men in the non-heart disease group. Women in the heart disease group had greater 5 walking times (usual pace, maximum speed) than those in the non-heart disease group. Both men and women in the heart disease group overall used more drugs and statins, and medications for heart disease than did participants in the non-heart disease group. In the multiple logistic regression analysis, 5 walking time (maximum speed) was shown to be associated with heart disease. Conclusions The community-dwelling elderly with heart disease showed declined physical functions. Our results suggested that these functional declines may be induced via medication and/or declines in daily activity.

Database: Medline

8. Cardiac Rehabilitation in Older Adults.

Author(s): Schopfer, David W; Forman, Daniel E

Source: The Canadian journal of cardiology; Sep 2016; vol. 32 (no. 9); p. 1088-1096

Publication Date: Sep 2016

Publication Type(s): Journal Article Review

PubMedID: 27297002

Abstract:The biology of aging and the pathophysiology of cardiovascular disease (CVD) overlap, with the effect that CVD is endemic in the growing population of older adults. Moreover, CVD in older adults is usually complicated by age-related complexities, including multimorbidity, polypharmacy, frailty, and other intricacies that add to the risks of ambiguous symptoms, deconditioning, iatrogenesis, falls, disability, and other challenges. Cardiac rehabilitation (CR) is a comprehensive lifestyle program that can have particular benefit for older patients with cardiovascular conditions. Although CR was originally designed primarily as an exercise training program for younger adults after a myocardial infarction or coronary artery bypass surgery, it has evolved as a comprehensive lifestyle program (promoting physical activity as well as education, diet, risk reduction, and adherence) for a broader range of CVD (coronary heart disease, heart failure, and valvular heart disease). It provides a valuable opportunity to address and moderate many of the challenges pertinent for the large and growing population of older adults with CVD. Cardiac rehabilitation promotes physical function (cardiorespiratory fitness as well as strength and balance) that helps overcome disease and deconditioning as well as related vulnerabilities such as disability, frailty, and falls. Similarly, CR facilitates education, monitoring, and guidance to reduce iatrogenesis and promote adherence. Furthermore, CR fosters cognition, socialization, and independence in older patients. Yet despite all its conceptual benefits, CR is significantly underused in older populations. This review discusses benefits and the paradoxical underuse of CR, as well as evolving models of care that may achieve greater application and efficacy.

Database: Medline

9. Depressive symptoms and functional decline following coronary interventions in older patients with coronary artery disease: a prospective cohort study.

Author(s): Wilcox, M Elizabeth; Freiheit, Elizabeth A; Faris, Peter; Hogan, David B; Patten, Scott B; Anderson, Todd; Ghali, William A; Knudtson, Merrill; Demchuk, Andrew; Maxwell, Colleen J

Source: BMC psychiatry; Aug 2016; vol. 16 ; p. 277

Publication Date: Aug 2016

Publication Type(s): Journal Article

PubMedID: 27491769

Available in full text at [BMC Psychiatry](#) - from ProQuest

Available in full text at [BMC Psychiatry](#) - from National Library of Medicine

Available in full text at [BMC Psychiatry](#) - from BioMed Central

Abstract: BACKGROUND Depressive symptoms are prevalent in patients with coronary artery disease (CAD). It is unclear, however, how depressive symptoms change over time and the impact of these changes on long-term functional outcomes. We examined the association between different trajectories of depressive symptoms over 1 year and change in functional status over 30 months among patients undergoing coronary angiography. METHODS This was a prospective cohort study of 350 patients aged 60 and older undergoing non-emergent cardiac catheterization (October 2003-February 2007). A dynamic measure of significant depressive symptoms (i.e., Geriatric Depression Scale score 5+) capturing change over 12 months was derived that categorized patients into the following groups: (i) no clinically important depressive symptoms (at baseline, 6 and 12 months); (ii) baseline-only symptoms (at baseline but not at 6 and 12 months); (iii) new onset symptoms (not at baseline but present at either 6 or 12 months); and, (iv) persistent symptoms (at baseline and at either 6 or 12 month assessment). Primary outcomes were mean change in Older Americans Resources and Services (OARS) instrumental (IADL) and basic activities of daily living (BADL) scores (range 0-14 for each) across baseline (pre-procedure) and 6, 12, and 30 months post-procedure visits. RESULTS Estimates for the symptom categories were 71 % (none), 9 % (baseline only), 8 % (new onset) and 12 % (persistent). In adjusted models, patients with persistent symptoms showed a significant decrease in mean IADL and BADL scores from baseline to 6 months (-1.32 [95 % CI -1.78 to -0.86] and -0.63 [-0.97 to -0.30], respectively) and from 12 to 30 months (-0.79 [-1.27 to -0.31] and -1.00 [-1.35 to -0.65], respectively). New onset symptoms were associated with a significant decrease in mean IADL scores at 6 months and from 6 to 12 months. Patients with no depressive symptoms showed little change in scores whereas those with baseline only symptoms showed significant improvement in mean IADL at 6 months. CONCLUSIONS Patients with persistent depressive symptoms were at greatest risk for worse functional status 30 months following coronary interventions. Proactive screening and follow-up for depression in this population offers prognostic value and may facilitate the implementation of targeted interventions.

Database: Medline

10. Cardiac Rehabilitation in Very Old Adults: Effect of Baseline Functional Capacity on Treatment Effectiveness.

Author(s): Baldasseroni, Samuele; Pratesi, Alessandra; Francini, Sara; Pallante, Rachele; Barucci, Riccardo; Orso, Francesco; Burgisser, Costanza; Marchionni, Niccolò; Fattirolli, Francesco

Source: Journal of the American Geriatrics Society; Aug 2016; vol. 64 (no. 8); p. 1640-1645

Publication Date: Aug 2016

Publication Type(s): Academic Journal

Available in full text at [Journal of the American Geriatrics Society](#) - from John Wiley and Sons

Abstract: Objectives To assess the effect of cardiac rehabilitation (CR) and identify predictors of changes in functional capacity with CR in a consecutive series of older adults with a recent cardiac event. Design Observational. Setting In-hospital CR unit. Participants Individuals aged 75 and older referred to an outpatient CR Unit after an acute coronary event (unstable angina pectoris, acute myocardial infarction) or cardiac surgery (coronary artery bypass grafting, heart valve replacement or repair) (N = 160, mean age 80 ± 4). Measurements Peak oxygen consumption (VO2 peak, power) during a symptom-limited cardiopulmonary stress test, distance walked in a 6-minute walk test (6 MWT, resistance), and peak torque (strength) using an isokinetic dynamometer, were assessed at baseline and at discharge from a 4-week supervised training program. Results Indexes of physical performance improved from baseline to discharge (VO2 peak, 10.9%; 6 MWT, 11.0%; peak torque, 11.5%). Baseline performance was independently associated with changes in all three indexes, with higher baseline values predicting less improvement (VO2 peak: OR=0.86, 95% confidence interval (CI)=0.77-0.97; 6 MWT: OR= 0.99, 95% CI=0.99-1.00; peak torque: OR=0.96, 95% CI=0.94-0.98). Conclusion An exercise-based CR program was associated with improvement in all domains of physical performance even in older adults after an acute coronary event or cardiac surgical intervention, particularly in those with poorer baseline performance.

Database: CINAHL

EXERCISE

11. The impact of exercise-only-based rehabilitation on depression and anxiety in patients after myocardial infarction.

Author(s): Korzeniowska-Kubacka, Iwona; Piotrowska, Dorota; Stepnowska, Monika; Piotrowicz, Ryszard; Bilińska, Maria

Source: European Journal of Cardiovascular Nursing; Jun 2017; vol. 16 (no. 5); p. 390-396

Publication Date: Jun 2017

Publication Type(s): Academic Journal

Abstract: Aim: The aim of the study was to assess the effectiveness of exercise training on depression, anxiety, physical capacity and sympatho-vagal balance in patients after myocardial infarction and compare differences between men and women. Methods: Thirty-two men aged 56.3±7.6 years and 30 women aged 59.2±8.1 years following myocardial infarction underwent an 8-week training programme consisting of 24 interval trainings on cycloergometer, three times a week. Before and after completing the training programme, patients underwent: depression intensity

assessment with the Beck depression inventory; anxiety assessment with the state–trait anxiety inventory; a symptom-limited exercise test during which were analysed: maximal workload, duration, double product. Results: In women the initial depression intensity was higher than in men, and decreased significantly after the training programme (14.8 ± 8.7 vs. 10.5 ± 8.8 ; $P<0.01$). The anxiety manifestation for state anxiety in women was higher than in men and decreased significantly after the training programme (45.7 ± 9.7 vs. 40.8 ± 0.3 ; $P<0.01$). Of note, no depression and anxiety manifestation was found in men. Physical capacity improved significantly after the training programme in all groups, and separately in men and in women. Moreover, an 8-week training programme favourably modified the parasympathetic tone. Conclusions: Participating in the exercise training programme contributed beneficially to a decrease in depression and anxiety manifestations in women post-myocardial infarction. Neither depression nor anxiety changed significantly in men. The impact of exercise training on physical capacity and autonomic balance was beneficial and comparable between men and women.

Database: CINAHL

12. A Pilot Study: The Beneficial Effects of Combined Statin-exercise Therapy on Cognitive Function in Patients with Coronary Artery Disease and Mild Cognitive Decline.

Author(s): Toyama, Kensuke; Sugiyama, Seigo; Oka, Hideki; Hamada, Mari; Iwasaki, Yuri; Horio, Eiji; Rokutanda, Taku; Nakamura, Shinichi; Spin, Joshua M; Tsao, Philip S; Ogawa, Hisao

Source: Internal medicine (Tokyo, Japan); 2017; vol. 56 (no. 6); p. 641-649

Publication Date: 2017

Publication Type(s): Journal Article Observational Study

PubMedID: 28321063

Abstract: Objective Hypercholesterolemia, a risk factor in cognitive impairment, can be treated with statins. However, cognitive decline associated with "statins" (HMG-CoA reductase inhibitors) is a clinical concern. This pilot study investigated the effects of combining statins and regular exercise on cognitive function in coronary artery disease (CAD) patients with prior mild cognitive decline. Methods We recruited 43 consecutive CAD patients with mild cognitive decline. These patients were treated with a statin and weekly in-hospital aerobic exercise for 5 months. We measured serum lipids, exercise capacity, and cognitive function using the mini mental state examination (MMSE). Results Low-density lipoprotein cholesterol levels were significantly decreased, and maximum exercise capacity (workload) was significantly increased in patients with CAD and mild cognitive decline after treatment compared with before. Combined statin-exercise therapy significantly increased the median (range) MMSE score from 24 (22-25) to 25 (23-27) across the cohort (p65 years, sex, and presence of diabetes mellitus, a decrease in BMI during statin-exercise therapy was significantly correlated with an increase in the MMSE score (odds ratio: 4.57, 95% confidence interval: 1.05-20.0; $p<0.05$). Conclusion Statin-exercise therapy may help improve cognitive dysfunction in patients with CAD and pre-existing mild cognitive decline.

Database: Medline

13. Supervised exercise therapy in the management of peripheral arterial disease - an assessment of compliance.

Author(s): Aherne, Thomas M; Kheirelseid, Elrasheid A H; Boland, Michael; Carr, Shane; Al-Zabi, Thekra; Bashar, Khalid; Moneley, Daragh; Leahy, Austin; McCaffrey, Noel; Naughton, Peter

Source: VASA. Zeitschrift fur Gefasskrankheiten; May 2017; vol. 46 (no. 3); p. 219-222

Publication Date: May 2017

Publication Type(s): Journal Article

PubMedID: 28134590

Available in full text at [VASA. Zeitschrift fur Gefasskrankheiten \[Vasa\] NLMUID: 0317051](#) - from EBSCOhost

Abstract: BACKGROUND Supervised exercise therapy (SET) is an effective option in the management of peripheral arterial disease (PAD). Unfortunately, poor compliance remains prevalent. This study aimed to assess patient exercise compliance and to identify factors influencing symptomatic improvement and SET participation. PATIENTS AND METHODS Data regarding attendance at SET for this cohort study were extracted from a prospectively maintained database of patients with claudication attending SET at Dublin City University. All patients had ankle brachial index confirmed PAD with associated intermittent claudication. Exercise performance and symptomatic data were gathered retrospectively using patient charts and interviews. RESULTS Ninety-eight patients were referred for SET during the study period. The mean age was 69.2 (\pm 10.1) with 18 % being female. Median follow-up was 25.1 months (IQ range 17.0-31.6). Overall, the mean number of sessions attended per patient was 19.5. Exercise compliance was associated with a significant improvement in symptoms ($p = 0.001$). Other factors including anatomical level of claudication ($P = 0.042$) and educational level ($p = 0.007$) were found to affect the outcome of SET. Multivariate analysis revealed hypertension as a predictor of symptomatic outcome after SET ($p = 0.045$). Furthermore, ex-smokers ($p = 0.021$) and those previously diagnosed with hypercholesterolaemia ($p = 0.020$) or ischaemic heart disease ($p = 0.029$) had superior exercise compliance. Using linear regression, smoking history ($p = 0.024$) was identified as a predictor of compliance to SET. CONCLUSIONS Establishing exercise compliance remains challenging in the PAD cohort. Pre-exercise patient education and personalised exercise prescriptions may result in improvements in function and compliance.

Database: Medline

14. Exercise-based cardiac rehabilitation in heart transplant recipients.

Author(s): Anderson, Lindsey; Nguyen, Tricia T; Dall, Christian H; Burgess, Laura; Bridges, Charlene; Taylor, Rod S

Source: The Cochrane database of systematic reviews; Apr 2017; vol. 4 ; p. CD012264

Publication Date: Apr 2017

Publication Type(s): Meta-analysis Journal Article Review

PubMedID: 28375548

Available in full text at [Cochrane Library, The](#) - from John Wiley and Sons

Abstract: BACKGROUND Heart transplantation is considered to be the gold standard treatment for selected patients with end-stage heart disease when medical therapy has been unable to halt progression of the underlying pathology. Evidence suggests that aerobic exercise training may be effective in reversing the pathophysiological consequences associated with cardiac denervation and

prevent immunosuppression-induced adverse effects in heart transplant recipients. **OBJECTIVES**To determine the effectiveness and safety of exercise-based rehabilitation on the mortality, hospital admissions, adverse events, exercise capacity, health-related quality of life, return to work and costs for people after heart transplantation. **SEARCH METHODS** We searched the Cochrane Central Register of Controlled Trials (CENTRAL) in the Cochrane Library, MEDLINE (Ovid), Embase (Ovid), CINAHL (EBSCO) and Web of Science Core Collection (Thomson Reuters) to June 2016. We also searched two clinical trials registers and handsearched the reference lists of included studies. **SELECTION CRITERIA**We included randomised controlled trials (RCTs) of parallel group, cross-over or cluster design, which compared exercise-based interventions with (i) no exercise control (ii) a different dose of exercise training (e.g. low- versus high-intensity exercise training); or (iii) an active intervention (i.e. education, psychological intervention). The study population comprised adults aged 18 years or over who had received a heart transplant. **DATA COLLECTION AND ANALYSIS** Two review authors independently screened all identified references for inclusion based on pre-specified inclusion criteria. Disagreements were resolved by consensus or by involving a third person. Two review authors extracted outcome data from the included trials and assessed their risk of bias. One review author extracted study characteristics from included studies and a second author checked them against the trial report for accuracy. **MAIN RESULTS** We included 10 RCTs that involved a total of 300 participants whose mean age was 54.4 years. Women accounted for fewer than 25% of all study participants. Nine trials which randomised 284 participants to receive exercise-based rehabilitation (151 participants) or no exercise (133 participants) were included in the main analysis. One cross-over RCT compared high-intensity interval training with continued moderate-intensity training in 16 participants. We reported findings for all trials at their longest follow-up (median 12 weeks). Exercise-based cardiac rehabilitation increased exercise capacity (VO₂peak) compared with no exercise control (MD 2.49 mL/kg/min, 95% CI 1.63 to 3.36; N = 284; studies = 9; moderate quality evidence). There was evidence from one trial that high-intensity interval exercise training was more effective in improving exercise capacity than continuous moderate-intensity exercise (MD 2.30 mL/kg/min, 95% CI 0.59 to 4.01; N = 16; 1 study). Four studies reported health-related quality of life (HRQoL) measured using SF-36, Profile of Quality of Life in the Chronically Ill (PLC) and the World Health Organization Quality Of Life (WHOQoL) - BREF. Due to the variation in HRQoL outcomes and methods of reporting we were unable to meta-analyse results across studies, but there was no evidence of a difference between exercise-based cardiac rehabilitation and control in 18 of 21 HRQoL domains reported, or between high and moderate intensity exercise in any of the 10 HRQoL domains reported. One adverse event was reported by one study. Exercise-based cardiac rehabilitation improves exercise capacity, but exercise was found to have no impact on health-related quality of life in the short-term (median 12 weeks follow-up), in heart transplant recipients whose health is stable. There was no evidence of statistical heterogeneity across trials for exercise capacity and no evidence of small study bias. The overall risk of bias in included studies was judged as low or unclear; more than 50% of included studies were assessed at unclear risk of bias with respect to allocation concealment, blinding of outcome assessors and declaration of conflicts of interest. Evidence quality was assessed as moderate according to GRADE criteria. **AUTHORS' CONCLUSIONS** We found moderate quality evidence suggesting that exercise-based cardiac rehabilitation improves exercise capacity, and that exercise has no impact on health-related quality of life in the short-term (median 12 weeks follow-up), in heart transplant recipients. Cardiac rehabilitation appears to be safe in this population, but long-term follow-up data are incomplete and further good quality and adequately-powered trials are needed to demonstrate the longer-term benefits of exercise on safety and impact on both clinical and patient-related outcomes, such as health-related quality of life, and healthcare costs.

Database: Medline

15. Hemodynamic, Autonomic, Ventilatory, and Metabolic Alterations After Resistance Training in Patients With Coronary Artery Disease...A Randomized Controlled Trial

Author(s): Caruso, Flavia R.; Bonjorno Jr, Jose C.; Arena, Ross; Phillips, Shane A.; Cabiddu, Ramona; Mendes, Renata G.; Arakelian, Vivian M.; Bassi, Daniela; Borghi-Silva, Audrey

Source: American Journal of Physical Medicine & Rehabilitation; Apr 2017; vol. 96 (no. 4); p. 226-235

Publication Date: Apr 2017

Publication Type(s): Academic Journal

Abstract:Objective: The aim of this work was to evaluate the hemodynamic, autonomic, and metabolic responses during resistance and dynamic exercise before and after an 8-week resistance training program using a low-intensity (30% of 1 repetition maximum), high-repetition (3 sets of 20 repetitions) model, added to an aerobic training program, in a coronary artery disease cohort. Design: Twenty male subjects with coronary artery disease (61.1 ± 4.7 years) were randomly assigned to a combined training group (resistance + aerobic) or aerobic training group (AG). Heart rate, stroke volume, cardiac output, minute ventilation, blood lactate, and parasympathetic modulation indices of heart rate (square root of the mean squared differences of successive RR intervals [RMSSD] and dispersion of points perpendicular to the line of identity that provides information about the instantaneous beat-to-beat variability [SD1]) were obtained before and after an 8-week RT program while performing exercise on a cycle ergometer and a 45-degree leg press. Results: Resistance training resulted in an increase in maximal and submaximal load tolerance ($P < 0.01$), a decreased hemodynamic response ($P < 0.01$), and a reduction in blood lactate in the combined training group compared to the aerobic training group during the 45-degree leg press. During exercise on a cycle ergometer, there was a decreased hemodynamic response and increased minute ventilation ($P < 0.01$). The 8-week RT program resulted in greater parasympathetic tone (RMSSD and SD1) and an increase in the SDNN index during exercise on a cycle ergometer and 45-degree leg press ($P < 0.05$). Conclusions: An 8-week resistance training program associated with aerobic training may attenuate hemodynamic stress, and modify metabolic and autonomic responses during resistance exercise. The training program also appeared to elicit beneficial cardiovascular and autonomic effects during exercise.

Database: CINAHL

16. Influence of Depression and Hostility on Exercise Tolerance and Improvement in Patients with Coronary Heart Disease.

Author(s): Shen, Biing-Jiun; Gau, Jen-Tzer

Source: International Journal of Behavioral Medicine; Apr 2017; vol. 24 (no. 2); p. 312-320

Publication Date: Apr 2017

Publication Type(s): Academic Journal

Abstract: Purpose: Although hostility and depression have been linked to higher cardiac risk and poor prognosis of patients with coronary heart disease (CHD), there is a lack of research that studies how they may influence the short-term outcomes among patients participating in cardiac rehabilitation (CR). This study aimed to investigate the influence of hostility and depression on patients' exercise tolerance and improvement trajectory in a CR program over 6 weeks. Method: Participants were 142 patients with CHD, with a mean age of 62 years. Latent growth curve modeling was conducted to determine whether hostility and depression predicted patients' baseline exercise tolerance and rates of improvement on treadmill, while controlling for age and severity of illness. In addition, analysis was conducted to examine whether depression mediated the influence of hostility on exercise outcomes. Results: Patients with CHD with higher hostility scores had a lower baseline exercise tolerance and slower rates of improvement over 6 weeks. Depressive symptom severity mediated the influence of hostility on exercise baseline and improvement. Patients with higher hostility were more likely to have more severe depressive symptoms, which in turn were associated with lower baseline exercise tolerance and slower improvement. Conclusion: While both hostility and depression predicted the exercise outcomes in CR, depression explained the influence of hostility. The findings underscore the importance of addressing psychosocial issues in treatment of CHD patients and provide support for psychosocial interventions in CR to facilitate patients' recovery.

Database: CINAHL

17. The efficacy of a supervised exercise training programme on readmission rates in patients with myocardial ischemia: results from a randomised controlled trial.

Author(s): Santaularia, Núria; Abenoza Guardiola, Montserrat; Caminal, Josefina; Arnau, Anna; Montesinos, Jesus; Perramon, Montserrat; Jaarsma, Tiny

Source: European Journal of Cardiovascular Nursing; Mar 2017; vol. 16 (no. 3); p. 201-212

Publication Date: Mar 2017

Publication Type(s): Academic Journal

Abstract: Background: The results of research into the outcomes of physical rehabilitation and its relationship with post-myocardial ischaemia survival and readmissions are inconclusive. Our primary aim was to evaluate the efficacy of a supervised exercise training programme in terms of decreasing hospital cardiac readmission in patients with myocardial ischaemia. Methods: We conducted a randomised controlled trial including patients with myocardial ischaemia. Eligible patients were

assigned to a control group receiving standard care or to an intervention group that took part in a supervised exercise training programme. The follow-up period was 12 months after hospital discharge. Results: Of 478 patients assessed for eligibility, 86 were randomised to the control group (n = 44) or the intervention group (n = 42). Cardiac readmission rates were 14% versus 5% (p = 0.268) in the control and intervention groups, respectively, and all-cause readmission rates were 23% versus 15% (p = 0.34). There were no deaths in either group. More control patients were treated in the emergency services (50% vs. 24%; p = 0.015). In terms of health-related quality of life, patients in the intervention group presented with significant increases in functional capacity and mobility. More intervention patients returned to work (77.3% vs. 36.0%; p = 0.005). Conclusions: The supervised physical exercise programme was effective at reducing the number of emergency room visits and at increasing the percentage of patients who returned to work. It also improved patients' exercise capacity and increased their health-related quality of life. Although the results were promising, the programme was not associated with a significant reduction in cardiac and all-cause readmission rates.

Database: CINAHL

18. Exercise-based cardiac rehabilitation increases daily physical activity of patients following myocardial infarction: subanalysis of two randomised controlled trials.

Author(s): Ribeiro, F.; Oliveira, N. L.; Silva, G.; Campos, L.; Miranda, F.; Teixeira, M.; Alves, A. J.; Oliveira, J.

Source: Physiotherapy; Mar 2017; vol. 103 (no. 1); p. 59-65

Publication Date: Mar 2017

Publication Type(s): Academic Journal

Abstract: Objective To assess the effects of an exercise-based cardiac rehabilitation programme on daily physical activity levels of patients following myocardial infarction. Design Subanalysis of two randomised, prospective controlled trials. Setting Outpatient clinic of a secondary hospital. Participants Fifty consecutive patients randomised to the exercise group {n = 25; 23 males; mean age 54 [standard deviation (SD) 9] years} or the control group [n = 25; 20 males; mean age 58 (SD 9) years]. Interventions The exercise group participated in an 8-week aerobic exercise programme plus usual medical care and follow-up. The control group received usual medical care and follow-up. Main outcome measures The primary outcome measure was change in time spent undertaking moderate-to-vigorous physical activity per day, assessed by accelerometer over 7 consecutive days. Secondary outcome measures were cardiorespiratory fitness, body mass, and resting blood pressure and heart rate. Results Moderate-to-vigorous physical activity levels increased significantly in the exercise group [43.2 (SD 36.3) to 53.5 (SD 31.9) minutes/day, P = 0.030], and remained unchanged in the control group [40.8 (SD 26.2) to 36.8 (SD 26.5) minutes/day, P = 0.241] from baseline to the end of the programme. Cardiorespiratory fitness increased significantly in the exercise group (mean

difference 2.8; 95% of the difference 1.3 to 4.4 ml/kg/minute, $P = 0.001$) after the 8-week programme. Conclusions In patients under optimal medication following myocardial infarction, participation in an 8-week exercise-based cardiac rehabilitation programme was found to improve physical activity levels consistent with health-related benefits. Future studies are needed to determine whether the increase in physical activity is maintained in the long term.

Database: CINAHL

19. Effect of physical activity in the first five days after cardiac surgery.

Author(s): Mungovan, Sean F; Singh, Preetraj; Gass, Gregory C; Smart, Neil A; Hirschhorn, Andrew D

Source: Journal of rehabilitation medicine; Jan 2017; vol. 49 (no. 1); p. 71-77

Publication Date: Jan 2017

Publication Type(s): Journal Article

PubMedID: 28101566

Available in full text at [Journal of rehabilitation medicine \[J Rehabil Med\] NLMUID: 101088169](#) - from EBSCOhost

Abstract: OBJECTIVES To quantify physiotherapist-supervised and independent physical activity undertaken from the first to the fifth day after cardiac surgery (POD1 to POD5), and to relate the amount of physical activity undertaken with hospital stay and postoperative physiological functional capacity on POD6. METHODS Physiotherapist-supervised and independent physical activity were monitored in 83 adult patients undergoing cardiac surgery, using a bi-axial accelerometer and skin sensors that measured, galvanic skin response and body temperature. Patients completed a 6-min walk test (6MWT) on POD6. Step count and physical activity intensity (METs; metabolic equivalents) were the main outcome measures. RESULTS Males exhibited significantly higher physiotherapist-supervised and independent physical activity step counts and time ≥ 3 METs ($p < 0.0001$). The 6MWT distance on POD6 was greater in men (mean 393 m, standard deviation (SD) 108 m) than women (mean 300 m, SD 121 m) ($p = 0.005$). Mean length of stay in hospital was 9 days (SD 3 days) and was negatively correlated with overall physiotherapist-supervised ($R = -0.70$), independent physical activity step counts ($R = -0.62$), and combined physiotherapist-supervised ($R = -0.65$) and independent ($R = -0.43$) physical activity time ≥ 3 METs. CONCLUSION Physiotherapist-supervised activity fosters improvements in postoperative physiological functional capacity and reduces length of stay in hospital following cardiac surgery.

Database: Medline

20. Eccentric exercise in ischemic cardiac patients and functional capacity: A systematic review and meta-analysis of randomized controlled trials.

Author(s): Karagiannis, C; Savva, C; Mamais, I; Efstathiou, M; Monticone, M; Xanthos, T

Source: Annals of physical and rehabilitation medicine; Jan 2017; vol. 60 (no. 1); p. 58-64

Publication Date: Jan 2017

Publication Type(s): Meta-analysis Journal Article Review

PubMedID: 27988306

Abstract: BACKGROUND Eccentric (ECC) exercise is an "economical" type of exercise with low energy requirements and does not cause early fatigue. Therefore, it is used for cardiac patients, who have

low physical activity and exercise intolerance, as an easier kind of training. **OBJECTIVE** This systematic review aimed to investigate the efficacy of ECC exercise for functional capacity (FC) in patients with ischemic heart disease. **DESIGN** Systematic review. **METHODS** MEDLINE via PubMed and EBSCO databases were searched for articles of randomized controlled trials of adults with ischemic heart disease who underwent ECC training as compared with other forms of exercise (concentric exercise) or no exercise and assessed FC. The methodologic quality of studies was assessed by the PEDro scale. A meta-analysis was performed with sufficient homogeneity between at least 2 studies in the pre-defined comparisons. **RESULTS** Four studies, investigating a total of 99 subjects, met the inclusion criteria. The results of the studies did not clearly indicate whether ECC exercise could improve FC better than traditional forms of exercise. However, the small number of studies and their methodologic weaknesses do not allow for drawing firm conclusions. **CONCLUSIONS** We found contradictory results about the effectiveness of ECC as compared with concentric exercise in terms of FC in ischemic cardiac patients. Further investigation with well-designed randomized trials is needed to determine the effectiveness of this kind of exercise for FC in such patients.

Database: Medline

21. The Effects of Controlled Physical Training on Peripheral Circulation Following Interventional Treatment of Coronary Artery Disease.

Author(s): Jurczak, Ireneusz; Jurczak, Ksenia; Irzmański, Robert

Source: Advances in clinical and experimental medicine : official organ Wroclaw Medical University; 2016; vol. 25 (no. 5); p. 851-859

Publication Date: 2016

Publication Type(s): Randomized Controlled Trial Journal Article

PubMedID: 28028947

Abstract: **BACKGROUND** Controlled physical training induces specific changes in the peripheral circulatory system and can lead to positive changes in the vascular perfusion of the lower extremities. **OBJECTIVE** The aim of the study was to evaluate changes in peripheral circulation in the calf in patients with acute coronary disease (ACD) undergoing controlled physical training. Impedance plethysmography was used to monitor peripheral circulation during the training. **MATERIAL AND METHODS** A total of 90 patients were divided into three study groups. Group 1 (n = 30) participated in a two-week cardiac rehabilitation program consisting of interval training on a cycle ergometer and exercise to improve the participants' general physical condition. Group 2 (n = 30) went through the same cardiac rehabilitation program for four weeks. The control group (n = 30) was assigned breathing exercises, active free exercises of the peripheral joints and different muscle groups, and relaxation exercises. All the patients underwent impedance plethysmography tests before and after the training sessions. **RESULTS** In Group 1, the systolic slope (PSlope) increased by 2%, pulse wave amplitude (PAmpl) increased by 4.2%, crest time (CT) increased by 1.5% and propagation time (PT) decreased by 1.2% (p > 0.05). In Group 2, the PSlope and PAmpl increased by 19% and 17% respectively, while the CT and PT decreased by 8% and 6.5% respectively (p < 0.05). In the control group, only the CT decreased, by 5% (p < 0.05). **CONCLUSIONS** The study confirmed that cardiac rehabilitation improves blood flow in lower limb vessels in patients with ACD. The results depend on the duration and the type of physical training. Impedance plethysmography allows for precise and repeatable monitoring of local blood flow.

Database: Medline

22. Physical Therapist-Led Ambulatory Rehabilitation for Patients Receiving CentriMag Short-Term Ventricular Assist Device Support: Retrospective Case Series.

Author(s): McGarrigle, Laura; Caunt, Jennifer

Source: Physical Therapy; Dec 2016; vol. 96 (no. 12); p. 1865-1873

Publication Date: Dec 2016

Publication Type(s): Academic Journal

Available in full text at [Physical Therapy](#) - from EBSCOhost

Available in full text at [Physical therapy \[Phys Ther\] NLMUID: 0022623](#) - from EBSCOhost

Available in full text at [Physical Therapy](#) - from Highwire Press

Available in full text at [Physical Therapy](#) - from ProQuest

Available in full text at [Physical Therapy](#) - from EBSCOhost

Abstract: Background and Purpose. Short-term ventricular assist device (VAD) support is used in the intensive care unit (ICU) to support individuals in end-stage heart failure prior to heart transplantation or implantation of a long-term left VAD. The literature investigating the feasibility, safety, and content of rehabilitation for this patient group is lacking. This report retrospectively describes the rehabilitation strategy, safety measures used, and nature of any adverse events and, therefore, the feasibility of this practice. Case Series Description. Ten individuals (80% male) admitted to the ICU in critical cardiogenic shock required support via a short-term VAD. A prerehabilitation risk assessment was used to reduce the risk of cannula dislodgement. The therapeutic strategy was a stepwise progression of exercises, mobilization, and ambulation. Outcomes. Retrospective inspection of the case notes showed 330 rehabilitation sessions (...=33, SD = 18.1, range = 16-72) were performed and progressed to ambulation on 71 occasions (...=7.1, SD=7.7, range=1-27). Distance ambulated ranged from 7 to 1,200 m (...=157.7, SD = 367.3). The Chelsea Critical Care Physical Assessment Tool (CPAx) score for 7 patients improved from a median of 0 (interquartile range=0-1) on day 1 to a median peak score of 39 (interquartile range=37-42). There were 8 episodes of minor adverse events (2.4% incidence rate), including 7 of transient low VAD flows. There were no major adverse events. Discussion. Early rehabilitation and ambulation of recipients of short-term VAD support was safe and feasible. Recipients demonstrated improvements in physical function (CPAx score) while the VAD was in situ.

Database: CINAHL

23. Effects of Aerobic Exercise Applied Early After Coronary Artery Bypass Grafting on Pulmonary Function, Respiratory Muscle Strength, and Functional Capacity: A Randomized Controlled Trial.

Author(s): Borges, Daniel L; Silva, Mayara Gabrielle; Silva, Luan Nascimento; Fortes, João Vyctor; Costa, Erika Thalita; Assunção, Rebeca Pessoa; Lima, Carlos Magno; da Silva Nina, Vinícius José; Bernardo-Filho, Mário; Caputo, Danúbia Sá

Source: Journal of physical activity & health; Sep 2016; vol. 13 (no. 9); p. 946-951

Publication Date: Sep 2016

Publication Type(s): Randomized Controlled Trial Journal Article

PubMedID: 27170538

Abstract: BACKGROUND Physical activity is beneficial in several clinical situations and recommended for patients with ischemic heart disease, as well as for those undergoing cardiac surgery. METHODS In a randomized controlled trial, 34 patients underwent coronary artery bypass grafting. A randomized control group (n = 15) submitted to conventional physiotherapy. The intervention group (n = 19) received the same protocol plus additional aerobic exercise with cycle ergometer. Pulmonary function by spirometry, respiratory muscle strength by manovacuometry, and functional capacity through 6-minute walking test was assessed before surgery and at hospital discharge. RESULTS There was significant reduction in pulmonary function in both groups. In both groups, inspiratory muscle strength was maintained while expiratory muscle strength significantly decreased. Functional capacity was maintained in the intervention group (364.5 [324.5 to 428] vs. 348 [300.7 to 413.7] meters, P = .06), but it decreased significantly in control group patients (320 [288.5 to 393.0] vs. 292 [237.0 to 336.0] meters, P = .01). A significant difference in functional capacity was also found in intergroup analyses at hospital discharge (P = .03). CONCLUSION Aerobic exercise applied early on coronary artery bypass grafting patients may promote maintenance of functional capacity, with no impact on pulmonary function and respiratory muscle strength when compared with conventional physiotherapy.

Database: Medline

24. Effects of resistance training on muscle strength, exercise capacity, and mobility in middle-aged and elderly patients with coronary artery disease: A meta-analysis.

Author(s): Yamamoto, Shuhei; Hotta, Kazuki; Ota, Erika; Mori, Rintaro; Matsunaga, Atsuhiko

Source: Journal of cardiology; Aug 2016; vol. 68 (no. 2); p. 125-134

Publication Date: Aug 2016

Publication Type(s): Research Support, Non-u.s. Gov't Meta-analysis Journal Article

PubMedID: 26690738

Abstract: BACKGROUND Resistance training (RT) is a core component of cardiac rehabilitation. We investigated the effects of RT on exercise capacity, muscle strength, and mobility in middle-aged and elderly patients with coronary artery disease (CAD). METHODS We searched for randomized controlled trials of RT versus usual care, or combined RT and aerobic training (AT) versus AT alone, and identified 440 trials in total from inception to January 2014. Participants who had myocardial infarction, coronary revascularization, angina pectoris or CAD were included in the analysis. Those who had heart failure, heart transplants with either cardiac resynchronization therapy or implantable defibrillators were excluded. RESULTS Twenty-two trials totaling 1095 participants were

analyzed. We performed random-effects meta-analysis. In middle-aged participants, RT increased lower extremity muscle strength [standardized mean difference (SMD): 0.65, 95% confidence interval (CI): 0.35 to 0.95], upper extremity muscle strength (SMD: 0.73, 95% CI: 0.48 to 0.99) and peak oxygen consumption (VO₂) [weight mean difference (WMD): 0.92mL/kg/min, 95% CI: 0.12 to 1.72], but did not improve mobility compared with the control. In elderly participants, RT increased lower extremity muscle strength (SMD: 0.63, 95% CI: 0.05 to 1.21), upper extremity muscle strength (SMD: 1.18, 95% CI: 0.56 to 1.80), and peak VO₂ (WMD: 0.70mL/kg/min, 95% CI: 0.03 to 1.37), and improved mobility (SMD: 0.61, 95% CI: 0.21 to 1.01) compared with the control. **CONCLUSIONS** Resistance training could increase exercise capacity and muscle strength in middle-aged and elderly patients, and mobility in elderly patients, with CAD.

Database: Medline

25. Beneficial Effects of Exercise-Based Cardiac Rehabilitation on High-Density Lipoprotein-Mediated Cholesterol Efflux Capacity in Patients with Acute Coronary Syndrome.

Author(s): Koba, Shinji; Ayaori, Makoto; Uto-Kondo, Harumi; Furuyama, Fumiaki; Yokota, Yuya; Tsunoda, Fumiyoshi; Shoji, Makoto; Ikewaki, Katsunori; Kobayashi, Youichi

Source: Journal of atherosclerosis and thrombosis; Jul 2016; vol. 23 (no. 7); p. 865-877

Publication Date: Jul 2016

Publication Type(s): Journal Article

PubMedID: 26947596

Abstract: AIM Recent studies reported that low high-density lipoprotein (HDL)-mediated cholesterol efflux capacity rather than low HDL cholesterol (HDL-C) is strongly associated with the increased risk for coronary artery disease. It remains unclear whether exercised-based cardiac rehabilitation (CR) can increase HDL cholesterol efflux capacity. **METHOD** This study is a retrospective analysis of stored serum from patients with acute coronary syndrome (ACS) who participated in outpatient CR program following successful percutaneous coronary intervention. We employed a cell-based cholesterol efflux system including the incubation of (3)H-cholesterol labeled macrophages with apolipoprotein B-depleted serum at the onset or early phase of ACS and at 6-month follow-up periods in 57 male and 11 female patients with ACS. Cardiopulmonary exercise tests were performed at the beginning and end of CR program. **RESULT** Fifty-seven patients completed the CR program. Compared with patients who dropped out from CR program (non-CR group), CR participants showed marked amelioration in serum lipid levels, increased efflux capacity, and improved exercise capacity. Spearman's rank correlation coefficient analysis revealed that the percent increases of efflux capacity were significantly associated with the percent increases in HDL-C ($p=0.598$, $p<0.0001$) and apolipoprotein A1 ($p=0.508$, $p<0.0001$), whereas no association between increases in efflux capacity and increases in cardiopulmonary fitness was observed. Increases in cholesterol efflux capacity were not seen in patients who continued smoking and those who did not achieve all risk factor targets and higher exercise tolerance. **CONCLUSION** CR can markedly increase both HDL-C and HDL cholesterol efflux capacity. These results suggest that CR is a very useful therapy for reverse cholesterol transport and secondary prevention.

Database: Medline

INTERVENTIONS

26. Perceived Cognition after Percutaneous Coronary Intervention: Association with Quality of Life, Mood and Fatigue in the THORESCI Study.

Author(s): Duijndam, Stefanie; Denollet, Johan; Nyklíček, Ivan; Kupper, Nina

Source: International Journal of Behavioral Medicine; Aug 2017; vol. 24 (no. 4); p. 552-562

Publication Date: Aug 2017

Publication Type(s): Academic Journal

Abstract: Purpose: Percutaneous coronary intervention (PCI) is a common invasive procedure for the treatment of coronary artery diseases. Long-term cognitive functioning after PCI and its association with health-related quality of life (HRQL) and psychological factors is relatively unknown. The aim of this study is to examine whether perceived cognitive functioning during the year after PCI is associated with HRQL over this time period, and whether mood, fatigue, and age are associated with changes in perceived cognition and HRQL. Methods: Patients undergoing PCI (n = 384, 79% male, mean age = 63, SD = 10) were recruited in the observational Tilburg Health Outcome Registry of Emotional Stress after Coronary Intervention (THORESCI) cohort study. Perceived concentration and attention problems, HRQL, mood, and fatigue were assessed at baseline, at 1-month and 12-month follow-up. Results: General linear mixed modeling analysis showed that across time, between- and within-subject differences in perceived concentration problems were associated with a reduced HRQL in all domains independent of clinical and demographic covariates. Only a part of this association could be explained by negative mood, fatigue, and older age. Similar findings were found for between-subject differences in perceived attention problems. Conclusions: Between-subject differences and within-subject changes in perceived cognition in PCI patients were strongly associated with HRQL across time, such that poorer perceived cognition was associated with poorer HRQL, independent of demographic and clinical variables. Most of the associations were also independent of mood and fatigue. The results should increase the awareness of clinicians for the role of cognition in the cardiac rehabilitation and recovery post-PCI.

Database: CINAHL

27. Toward Optimal Decision Making among Vulnerable Patients Referred for Cardiac Surgery: A Qualitative Analysis of Patient and Provider Perspectives.

Author(s): Gainer, Ryan A.; Curran, Janet; Buth, Karen J.; David, Jennie G.; Légaré, Jean-Francois; Hirsch, Gregory M.

Source: Medical Decision Making; Jul 2017; vol. 37 (no. 5); p. 600-610

Publication Date: Jul 2017

Publication Type(s): Academic Journal

Abstract: Objectives. Comprehension of risks, benefits, and alternative treatment options has been shown to be poor among patients referred for cardiac interventions. Patients' values and preferences are rarely explicitly sought. An increasing proportion of frail and older patients are undergoing complex cardiac surgical procedures with increased risk of both mortality and prolonged institutional care. We sought input from patients and caregivers to determine the optimal approach to decision making in this vulnerable patient population. Methods. Focus groups were held with both providers and former patients. Three focus groups were convened for Coronary Artery Bypass Graft (CABG), Valve, or CABG +Valve patients ≥ 70 y old (2-y post-op, ≤ 8 -wk post-op, complicated post-op course) (n = 15). Three focus groups were convened for Intermediate Medical Care Unit (IMCU) nurses, Intensive Care Unit (ICU) nurses, surgeons, anesthesiologists and cardiac intensivists (n = 20). We used a semi-structured interview format to ask questions surrounding the informed consent process. Transcribed audio data was analyzed to develop consistent and comprehensive themes. Results. We identified 5 main themes that influence the decision making process: educational barriers, educational facilitators, patient autonomy and perceived autonomy, patient and family expectations of care, and decision making advocates. All themes were influenced by time constraints experienced in the current consent process. Patient groups expressed a desire to receive information earlier in their care to allow time to identify personal values and preferences in developing plans for treatment. Both groups strongly supported a formal approach for shared decision making with a decisional coach to provide information and facilitate communication with the care team. Conclusions. Identifying the barriers and facilitators to patient and caretaker engagement in decision making is a key step in the development of a structured, patient-centered SDM approach. Intervention early in the decision process, the use of individualized decision aids that employ graphic risk presentations, and a dedicated decisional coach were identified by patients and providers as approaches with a high potential for success. The impact of such a formalized shared decision making process in cardiac surgery on decisional quality will need to be formally assessed. Given the trend toward older and frail patients referred for complex cardiac procedures, the need for an effective shared decision making process is compelling.

Database: CINAHL

28. Continuity of care after percutaneous coronary intervention: The patient's perspective across secondary and primary care settings.

Author(s): Valaker, Irene; Råholm, Maj-Britt; Norekvål, Tone M.; Rotevatn, Svein; Fridlund, Bengt; Nordrehaug, Jan Erik

Source: European Journal of Cardiovascular Nursing; Jun 2017; vol. 16 (no. 5); p. 444-452

Publication Date: Jun 2017

Publication Type(s): Academic Journal

Abstract: Background: Although patients may experience a quick recovery followed by rapid discharge after percutaneous coronary interventions (PCIs), continuity of care from hospital to home can be particularly challenging. Despite this fact, little is known about the experiences of care across the interface between secondary and primary healthcare systems in patients undergoing PCI. Aim: To explore how patients undergoing PCI experience continuity of care between secondary and primary care settings after early discharge. Methods: The study used an inductive exploratory design by performing in-depth interviews of 22 patients at 6–8 weeks after PCI. Nine were women and 13 were men; 13 were older than 67 years of age. Eight lived remotely from the PCI centre. Patients were purposively recruited from the Norwegian Registry for Invasive Cardiology. Interviews were analysed by qualitative content analysis. Findings: Patients undergoing PCI were satisfied with the technical treatment. However, patients experienced an unplanned patient journey across care boundaries. They were not receiving adequate instruction and information on how to integrate health information. Patients also needed help to facilitate connections to community-based resources and to schedule clear follow-up appointments. Conclusions and implications: As high-technology treatment dramatically expands, healthcare organisations need to be concerned about all dimensions of continuity. Patients are witnessing their own processes of healthcare delivery and therefore their voices should be taken into greater account when discussing continuity of care. Nurse-led initiatives to improve continuity of care involve a range of interventions at different levels of the healthcare system.

Database: CINAHL

29. Perceived social support following percutaneous coronary intervention is a crucial factor in patients with coronary heart disease.

Author(s): Kähkönen, Outi; Kankkunen, Päivi; Miettinen, Heikki; Lamidi, Marja-Leena; Saaranen, Terhi

Source: Journal of Clinical Nursing; May 2017; vol. 26 (no. 9/10); p. 1264-1280

Publication Date: May 2017

Publication Type(s): Academic Journal

Available in full text at [Journal of Clinical Nursing](#) - from John Wiley and Sons

Abstract: Aims and objectives To describe perceived social support among patients with coronary heart disease following percutaneous coronary intervention. Background A low level of social support is considered a risk factor for coronary heart disease in healthy individuals and reduces the likelihood that people diagnosed with coronary heart disease will have a good prognosis. Design A descriptive cross-sectional study. Methods A survey of 416 patients was conducted in 2013. A self-report instrument, Social Support of People with Coronary Heart Disease, was used. The instrument

comprises three dimensions of social support: informational, emotional, functional supports and 16 background variables. Data were analysed using descriptive statistics, factor analysis, mean sum variables and multivariate logistic regression. Results Perceived informational support was primarily high, but respondents' risk factors were not at the target level. The weakest items of informational support were advice on physical activity, continuum of care and rehabilitation. Regarding the items of emotional support, support from other cardiac patients was the weakest. The weakest item of functional support was respondents' sense of the healthcare professionals' care of patients coping with their disease. Background variables associated with perceived social support were gender, marital status, level of formal education, profession, physical activity, duration of coronary heart disease and previous myocardial infarction. Conclusions Healthcare professionals should pay extra attention to women, single patients, physically inactive patients, those demonstrating a lower level of education, those with a longer duration of CHD, and respondents without previous acute myocardial infarction. Continuum of care and counselling are important to ensure especially among them. Relevance to clinical practice This study provides evidence that healthcare professionals should be more aware of the individual needs for social support among patients with coronary heart disease after percutaneous coronary intervention.

Database: CINAHL

30. Medical Therapy for Secondary Prevention and Long-Term Outcome in Patients With Myocardial Infarction With Nonobstructive Coronary Artery Disease.

Author(s): Lindahl, Bertil; Baron, Tomasz; Erlinge, David; Hadziosmanovic, Nermin; Nordenskjöld, Anna; Gard, Anton; Jernberg, Tomas

Source: Circulation; Apr 2017; vol. 135 (no. 16); p. 1481-1489

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28179398

Available in full text at [Circulation](#) - from Ovid

Abstract: Background: Myocardial infarction with nonobstructive coronary arteries (MINOCA) occurs in 5% to 10% of all patients with myocardial infarction. Clinical trials of secondary prevention treatment in MINOCA patients are lacking. Therefore, the aim of this study was to examine the associations between treatment with statins, renin-angiotensin system blockers, β -blockers, dual antiplatelet therapy, and long-term cardiovascular events. Methods: This is an observational study of MINOCA patients recorded in the SWEDEHEART registry (the Swedish Web-system for Enhancement and Development of Evidence-based care in Heart disease Evaluated According to Recommended Therapy) between July 2003 and June 2013 and followed until December 2013 for outcome events in the Swedish Cause of Death Register and National Patient Register. Of 199 162 myocardial infarction

admissions, 9466 consecutive unique patients with MINOCA were identified. Among those, the 9136 patients surviving the first 30 days after discharge constituted the study population. Mean age was 65.3 years, and 61% were women. No patient was lost to follow-up. A stratified propensity score analysis was performed to match treated and untreated groups. The association between treatment and outcome was estimated by comparing between treated and untreated groups by using Cox proportional hazards models. The exposures were treatment at discharge with statins, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers, β -blockers, and dual antiplatelet therapy. The primary end point was major adverse cardiac events defined as all-cause mortality, hospitalization for myocardial infarction, ischemic stroke, and heart failure. Results: At discharge, 84.5%, 64.1%, 83.4%, and 66.4% of the patients were on statins, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers, β -blockers, and dual antiplatelet therapy, respectively. During the follow-up of a mean of 4.1 years, 2183 (23.9%) patients experienced a major adverse cardiac event. The hazard ratios (95% confidence intervals) for major adverse cardiac events were 0.77 (0.68-0.87), 0.82 (0.73-0.93), and 0.86 (0.74-1.01) in patients on statins, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers, and β -blockers, respectively. For patients on dual antiplatelet therapy followed for 1 year, the hazard ratio was 0.90 (0.74-1.08). Conclusions: The results indicate long-term beneficial effects of treatment with statins and angiotensin-converting enzyme inhibitors/angiotensin receptor blockers on outcome in patients with MINOCA, a trend toward a positive effect of β -blocker treatment, and a neutral effect of dual antiplatelet therapy. Properly powered randomized clinical trials to confirm these results are warranted.

Database: CINAHL

31. Long-Term Echocardiographic Outcome in Super-Responders to Cardiac Resynchronization Therapy and the Association With Mortality and Defibrillator Therapy.

Author(s): van der Heijden, Aafke C; Höke, Ulas; Thijssen, Joep; Willem Borleffs, C Jan; Wolterbeek, Ron; Schalij, Martin J; van Erven, Lieselot

Source: The American journal of cardiology; Oct 2016; vol. 118 (no. 8); p. 1217-1224

Publication Date: Oct 2016

Publication Type(s): Journal Article

PubMedID: 27586169

Available in full text at [American Journal of Cardiology, The](#) - from ProQuest

Abstract: Super-response to cardiac resynchronization therapy (CRT) is associated with significant left ventricular (LV) reverse remodeling and improved clinical outcome. The study aimed to: (1) evaluate whether LV reverse remodeling remains sustained during long-term follow-up in super-responders and (2) analyze the association between the course of LV reverse remodeling and ventricular arrhythmias. Of all, primary prevention super-responders to CRT were selected. Super-response was defined as LV end-systolic volume reduction of $\geq 30\%$ 6 months after device implantation. Cox regression analysis was performed to investigate the association of LV ejection fraction (LVEF) as time-dependent variable with implantable-cardioverter defibrillator (ICD) therapy and mortality. A total of 171 super-responders to CRT-defibrillator were included (mean age 67 ± 9 years; 66% men; 37% ischemic heart disease). Here of 129 patients received at least 1

echocardiographic evaluation after a median follow-up of 62 months (25th to 75th percentile, 38 to 87). LV end-diastolic volume, LV end-systolic volume, and LVEF after 6-month follow-up were comparable with those after 62-month follow-up ($p = 0.90$, $p = 0.37$, and $p = 0.55$, respectively). Changes in LVEF during follow-up in super-responders were independently associated with appropriate ICD therapy (hazard ratio 0.94, 95% CI 0.90 to 0.98; $p = 0.005$) and all-cause mortality (hazard ratio 0.95, 95% CI 0.91 to 1.00; $p = 0.04$). A 5% increase in LVEF was associated with a 1.37 times lower risk of appropriate ICD therapy and a 1.30 times lower risk of mortality. In conclusion, LV reverse remodeling in super-responders to CRT remains sustained during long-term follow-up. Changes in LVEF during follow-up were associated with mortality and ICD therapy.

Database: Medline

32. Outcomes of early invasive treatment strategy in elderly patients with non-ST elevation acute coronary syndromes.

Author(s): Conti, Elena; Musumeci, Maria B; Desideri, Jasmine P; Ventura, Martina; Fusco, Danilo; Zezza, Luigi; De Giusti, Marco; Berni, Andrea; Francia, Pietro; Volpe, Massimo; Autore, Camillo

Source: Journal of cardiovascular medicine (Hagerstown, Md.); Oct 2016; vol. 17 (no. 10); p. 736-743

Publication Date: Oct 2016

Publication Type(s): Journal Article

PubMedID: 27583780

Abstract: BACKGROUND As benefits of revascularization in non-ST elevation acute coronary syndromes (NSTEMACS) in the elderly are still unproven, we sought to assess the association between invasive or conservative management of NSTEMACS and short-, mid- and long-term mortality or composite outcome of all-cause mortality and myocardial infarction in a cohort of consecutive elderly patients. METHODS AND RESULTS Consecutive NSTEMACS patients older than 75 years discharged between 2006 and 2010 from a single intensive cardiac care unit, and managed with invasive or conservative strategy according to available guidelines were retrospectively surveyed. By multivariate regression and sensitivity analysis, crude and adjusted mortality and composite outcome were estimated at prespecified time points of short-term (in-hospital or 30 days mortality), mid-term (T1: 31 days to 6 months), and long-term (T2: 31 days to 12 months). A total of 453 patients (median age 80 years, 47% men) were evaluated; 301 (66.5%) underwent invasive treatment. Invasive was associated with significantly lower risk of short- [odds ratio (OR) 0.28, 95% confidence interval (CI) 0.12-0.67, $P = 0.004$], mid- (OR 0.33, 95% CI 0.16-0.67, $P = 0.003$) and long-term mortality (OR 0.34, 95% CI 0.20-0.58, $P < .0001$). Invasive strategy was also associated with nonsignificant lower short- (OR 0.55, 95% CI 0.28-1.07, $P = 0.077$), and highly significant lower mid- (OR 0.52, 95% CI 0.34-0.81, $P = 0.003$) and long-term adjusted cumulative composite outcome rate (OR 0.68, 95% CI 0.46-0.98, $P = 0.004$). CONCLUSION In NSTEMACS elderly patients, invasive strategy is independently associated with lower short-, mid- and long-term mortality and composite outcome.

Database: Medline

33. Defibrillator Implantation in Patients with Nonischemic Systolic Heart Failure.

Author(s): Køber, Lars; Thune, Jens J; Nielsen, Jens C; Haarbo, Jens; Videbæk, Lars; Korup, Eva; Jensen, Gunnar; Hildebrandt, Per; Steffensen, Flemming H; Bruun, Niels E; Eiskjær, Hans; Brandes,

Axel; Thøgersen, Anna M; Gustafsson, Finn; Egstrup, Kenneth; Videbæk, Regitze; Hassager, Christian; Svendsen, Jesper H; Høfsten, Dan E; Torp-Pedersen, Christian; Pehrson, Steen; DANISH Investigators

Source: The New England journal of medicine; Sep 2016; vol. 375 (no. 13); p. 1221-1230

Publication Date: Sep 2016

Publication Type(s): Randomized Controlled Trial Multicenter Study Journal Article

PubMedID: 27571011

Available in full text at [New England Journal of Medicine, The](#) - from ProQuest

Abstract: BACKGROUND The benefit of an implantable cardioverter-defibrillator (ICD) in patients with symptomatic systolic heart failure caused by coronary artery disease has been well documented. However, the evidence for a benefit of prophylactic ICDs in patients with systolic heart failure that is not due to coronary artery disease has been based primarily on subgroup analyses. The management of heart failure has improved since the landmark ICD trials, and many patients now receive cardiac resynchronization therapy (CRT). METHODS In a randomized, controlled trial, 556 patients with symptomatic systolic heart failure (left ventricular ejection fraction, $\leq 35\%$) not caused by coronary artery disease were assigned to receive an ICD, and 560 patients were assigned to receive usual clinical care (control group). In both groups, 58% of the patients received CRT. The primary outcome of the trial was death from any cause. The secondary outcomes were sudden cardiac death and cardiovascular death. RESULTS After a median follow-up period of 67.6 months, the primary outcome had occurred in 120 patients (21.6%) in the ICD group and in 131 patients (23.4%) in the control group (hazard ratio, 0.87; 95% confidence interval [CI], 0.68 to 1.12; $P=0.28$). Sudden cardiac death occurred in 24 patients (4.3%) in the ICD group and in 46 patients (8.2%) in the control group (hazard ratio, 0.50; 95% CI, 0.31 to 0.82; $P=0.005$). Device infection occurred in 27 patients (4.9%) in the ICD group and in 20 patients (3.6%) in the control group ($P=0.29$). CONCLUSIONS In this trial, prophylactic ICD implantation in patients with symptomatic systolic heart failure not caused by coronary artery disease was not associated with a significantly lower long-term rate of death from any cause than was usual clinical care. (Funded by Medtronic and others; DANISH ClinicalTrials.gov number, NCT00542945 .).

Database: Medline

34. Oral anticoagulation with vitamin K inhibitors and determinants of successful self-management in primary care.

Author(s): Tamayo Aguirre, E; Galo-Anza, A; Dorronsoro-Barandiaran, O; Del Burgo, E Uranga-Saez; Ostiza Irigoyen, A; Garcia-Carro, A; Lopez-Fernandez, I; Colera, N; Saez-Garbayo, P; Tamayo-Uria, I

Source: BMC cardiovascular disorders; Sep 2016; vol. 16 (no. 1); p. 180

Publication Date: Sep 2016

Publication Type(s): Randomized Controlled Trial Multicenter Study Journal Article

PubMedID: 27624485

Available in full text at [BMC Cardiovascular Disorders](#) - from National Library of Medicine

Available in full text at [BMC Cardiovascular Disorders](#) - from BioMed Central

Available in full text at [BMC Cardiovascular Disorders](#) - from ProQuest

Abstract: BACKGROUND Self-management may be an option to monitor oral anticoagulant therapy in health systems, but before recommending it, we need to assess patients' ability to take on this task. The purpose of the study was to describe patients' ability to self-manage and associated

factors. **METHODS** This was a 3-year prospective quasi-experimental study with a control group. Overall, 333 patients on anticoagulant therapy from seven primary care health centres of the Basque Health Service were included in the intervention group and followed up for 6 months after the intervention, assessing their ability to self-test and self-manage. The intervention consisted of a patient training programme, providing detailed information on their condition and its treatment, and practical training in how to use a portable blood coagulation monitor and adjust their anticoagulant dose. Comparisons were made with a control group (333 patients receiving OAT under usual care from the same seven health centres). Outcome variables were ability to self-manage, quality of the outcome (in terms of time in therapeutic range), and quality of life in the intervention group, and general patient characteristics (age and sex), clinical variables (reason for OAT, INR range), and quality of the outcome (in terms of percentage of INR measurements in range and complications) in both groups. **RESULTS** Overall, 26.13 % of patients invited to participate in the intervention agreed. Of these, 99 % successfully learned to self-manage their OAT. Just 4.2 % did not complete the follow-up, in all cases for reasons unrelated to self-management, and 4.5 % required additional learning support. Outcomes were better than under usual care in terms of percentage of INR measurements in range (12 %), rate of complications (4 %) and quality of life (9.2 %). **LIMITATIONS** Patients were only followed-up period for 6 months and the study was conducted in a single health organization. Though patients eligible to participate were selected randomly, they were not randomly allocated to the groups. This is a potential source of selection bias. Data needed to calculate in-range time were not collected from controls; rather the results for the self-management group were compared with external data from other studies. **CONCLUSIONS** Almost all participants achieved competency in self-management, with no differences by age, sex, concurrent illnesses, polypharmacy or educational level. The greatest barrier to self-management was the attitude of patients themselves and those around them. Self-management in primary care is a good alternative to usual care, patients having longer times in therapeutic range and fewer complications, and improving their quality of life. Remote management is a good support tool. **TRIAL REGISTRATION** ClinicalTrials.gov Identifier: NCT01878539.

Database: Medline

REHABILITATION

35. It is not just a Minor Thing - A Phenomenological-Hermeneutic Study of Patients' Experiences when afflicted by a Minor Heart Attack and Participating in Cardiac Rehabilitation.

Author(s): Simonö, Charlotte P.; Dreyer, Pia; Pedersen, Birthe D.; Birkelund, Regner

Source: Scandinavian Journal of Caring Sciences; Jun 2017; vol. 31 (no. 2); p. 232-240

Publication Date: Jun 2017

Publication Type(s): Academic Journal

Available in full text at [Scandinavian Journal of Caring Sciences](#) - from John Wiley and Sons

Abstract: Background To improve cardiac care, especially cardiac rehabilitation, patients' perspectives should be better addressed. In Denmark, patients afflicted by a minor heart attack in terms of unstable angina pectoris or non- ST-elevation myocardial infarction are treated in fast-track programmes with subacute treatment in hospital, early discharge and follow-up specialised outpatient cardiac rehabilitation. Knowledge of these patients' experiences of their life situation is essential to develop sufficient care protocols. Aim To gain in-depth understanding of how patients afflicted by a minor heart attack experience their life situation when following cardiac rehabilitation. Methods Focus group interviews and individual interviews were conducted with 11 patients enrolled in the cardiac rehabilitation programme. Data consisted of text in the form of transcribed interviews. A three-phased interpretation inspired by Paul Ricoeur's theory of interpretation was applied. Findings As an overall concept, the patients experienced being forced into a demanding life shaking journey. Three themes emerged: Difficulty accepting the disease: facing the disease is a difficult challenge for the patients, leading to vulnerability and helplessness; Understanding that life has become frail: patients feel shaken as they realise that the disease is chronic and life-threatening; and An altered life: patients must adjust to new limitations in their everyday lives. Conclusions Patients experience an overall demanding transition when they are afflicted by a minor heart attack, whereby their lives are sweepingly changed. Supporting patients' integrity, which becomes vulnerable during the various stages of transitions, is essential to ensure a healthy outcome. Being together with fellow patients during cardiac rehabilitation is a facilitating factor in the course of transition.

Database: CINAHL

36. Effects of a Phase IV Home-Based Cardiac Rehabilitation Program on Cardiorespiratory Fitness and Physical Activity.

Author(s): Noites, Andreia; Freitas, Carla Patrícia; Pinto, Joana; Melo, Cristina; Vieira, Ágata; Albuquerque, Aníbal; Teixeira, Madalena; Ribeiro, Fernando; Bastos, José Mesquita

Source: Heart, lung & circulation; May 2017; vol. 26 (no. 5); p. 455-462

Publication Date: May 2017

Publication Type(s): Comparative Study Randomized Controlled Trial Clinical Trial, Phase Iv Journal Article

PubMedID: 27743855

Abstract: BACKGROUND Cardiovascular diseases are the leading cause of death globally and sedentary lifestyle is one of the main risk factors. Home-based cardiac rehabilitation (CR) programs appear to be effective to improve exercise tolerance. The aim of the study, therefore, was to evaluate the effects of a phase IV (maintenance) home-based CR program on cardiorespiratory fitness and daily physical activity of patients recovering from an acute myocardial infarction. METHODS This pilot study, with a sub-group randomised controlled trial, included 32 individuals recovering from a myocardial infarction, randomly divided into the experimental group (EG, n=16) and the control group (CG, n=16). The EG performed an exercise program, three times per week, at home during eight weeks. The two groups received health education sessions. Baseline and final assessments included cardiorespiratory fitness, resting and peak heart rate, blood pressure and rate pressure, heart rate recovery and daily physical activity. (ClinicalTrials.gov: NCT01887080).RESULTS

At baseline no significant differences were observed between groups. After eight weeks of exercise, the EG significantly increased peak oxygen uptake ($p=0.02$), test duration ($p=0.019$), peak rate pressure ($p=0.003$), peak heart rate ($p=0.003$) and heart rate recovery (0.025) when compared to the CG. No changes were observed on daily physical activity in both groups .CONCLUSION This specific phase IV home-based exercise program seems to improve cardiorespiratory fitness, haemodynamics at peak exercise and heart rate recovery, an indicator of cardiac autonomic function.

Database: Medline

37. Poor preoperative nutritional status is an important predictor of the retardation of rehabilitation after cardiac surgery in elderly cardiac patients.

Author(s): Ogawa, Masato; Izawa, Kazuhiro; Satomi-Kobayashi, Seimi; Kitamura, Aki; Ono, Rei; Sakai, Yoshitada; Okita, Yutaka

Source: Aging Clinical & Experimental Research; Apr 2017; vol. 29 (no. 2); p. 283-290

Publication Date: Apr 2017

Publication Type(s): Academic Journal

Abstract: Background: Preoperative nutritional status and physical function are important predictors of mortality and morbidity after cardiac surgery. However, the influence of nutritional status before cardiac surgery on physical function and the progress of postoperative rehabilitation requires clarification. Aims: To determine the effect of preoperative nutritional status on preoperative physical function and progress of rehabilitation after elective cardiac surgery. Methods: We enrolled 131 elderly patients with mean age of 73.7 ± 5.8 years undergoing cardiac surgery. We divided them into two groups by nutritional status as measured by the Geriatric Nutritional Risk Index (GNRI): high GNRI group ($GNRI \geq 92$, $n = 106$) and low GNRI group ($GNRI < 92$, $n = 25$). Physical function was estimated by handgrip strength, knee extensor muscle strength (KEMS), the Short Physical Performance Battery (SPPB), and 6-minute walk test (6MWT). Progress of postoperative rehabilitation was evaluated by the number of days to independent walking after surgery, length of stay in the ICU, and length of hospital stay. Results: After adjusting for potential confounding factors, preoperative handgrip strength ($P = 0.034$), KEMS ($P = 0.009$), SPPB ($P < 0.0001$), and 6MWT ($P = 0.012$) were all significantly better in the high GNRI group. Multiple regression analysis revealed that a low GNRI was an independent predictor of the retardation of postoperative rehabilitation. Conclusions: Preoperative nutritional status as assessed by the GNRI could reflect perioperative physical function. Preoperative poor nutritional status may be an independent predictor of the retardation of postoperative rehabilitation in patients undergoing elective cardiac surgery.

Database: CINAHL

38. Cardiac rehabilitation in the acute care setting: Integrative review.

Author(s): Hall, Chezhan; Murphy, Maria; Scanlon, Andrew

Source: Australian Critical Care; Mar 2017; vol. 30 (no. 2); p. 99-106

Publication Date: Mar 2017

Publication Type(s): Academic Journal

Abstract: Background Phase one cardiac rehabilitation (CR) is an essential component of care for patients with coronary heart disease. With optimal program delivery, health outcomes can be improved. Objectives To conduct an integrative review that explores Phase one CR for patients hospitalised with coronary heart disease. Design Integrative literature review (2003–2014) Data sources: The literature search included Medline, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Experta Medica Database (EMBASE), Psycinfo, Clinical Practice Guidelines Portal, Cochrane Library, Clinical Evidence (BMJ) and Google Scholar. Review methods: The Joanna Briggs Institute critical appraisal tools relevant to study methodology were utilised. Studies included for review were peer reviewed, published in English. Studies included Phase one CR intervention/s or the provision of education to patients diagnosed with coronary heart disease in the acute care setting prior to hospital discharge. Results In the past decade cardiac researchers have predominantly focused on patients and health professionals perceptions, CR interventions, and patient education. Factors that impede delivery of Phase one CR, such as time, workload etc. were also reported. Conclusions The implementation of Phase one CR delivery requires optimisation to enable patients with coronary heart disease to achieve positive health outcomes post hospitalisation. Future interventions should address the factors that impede delivery of Phase one CR.

Database: CINAHL

39. Predictors of Suboptimal Gain in Exercise Capacity After Cardiac Rehabilitation.

Author(s): Bargehr, Johannes; Thomas, Colleen S; Oken, Keith R; Thomas, Randal J; Lopez-Jimenez, Francisco; Trejo-Gutierrez, Jorge F

Source: The American journal of cardiology; Mar 2017; vol. 119 (no. 5); p. 687-691

Publication Date: Mar 2017

Publication Type(s): Journal Article

PubMedID: 27865482

Available in full text at [American Journal of Cardiology, The](#) - from ProQuest

Abstract: Cardiac rehabilitation (CR) improves exercise capacity (EC), but not all CR participants achieve such improvements. Our primary aim was to develop a tool to identify those with suboptimal improvement in EC after CR. We retrospectively analyzed 541 patients enrolled in a phase-II CR program after a cardiac event or intervention from 2003 to 2014. EC was assessed with the 6-minute walk test. We developed a multivariate linear regression model and corresponding nomogram to predict EC after CR. The predictors included in the final model were age, gender, baseline EC, primary referral diagnosis, body mass index, systolic blood pressure at rest,

triglycerides, low-density lipoprotein cholesterol, lipid-lowering medication use, and an interaction term of low-density lipoprotein cholesterol with lipid-lowering therapy. The prediction model was internally validated using bootstrap methods, and a nomogram was created for ease of use. In conclusion, this tool helps to identify those patients with suboptimal improvement in EC who could be targeted for individualized interventions to increase their performance.

Database: Medline

40. Effectiveness of expanded cardiac rehabilitation in patients diagnosed with coronary heart disease: a systematic review protocol.

Author(s): Momsen, Anne-Mette Hedeager; Hald, Kathrine; Nielsen, Claus Vinther; Larsen, Mogens Lytken

Source: JBI Database of Systematic Reviews & Implementation Reports; Feb 2017; vol. 15 (no. 2); p. 212-219

Publication Date: Feb 2017

Publication Type(s): Academic Journal

Abstract: Review objective/question: The objective of this review is to identify the effectiveness of expanded cardiac rehabilitation (CR) in patients diagnosed with coronary heart disease (CHD). Specifically, the review question is: What is the effectiveness of expanded CR compared to standard CR in adult patients diagnosed with CHD? Effectiveness will be assessed by the effect on mortality and readmissions due to all causes or any cardiac event, systolic blood pressure, cholesterol levels and adherence to recommendations in secondary prevention guidelines.

Database: CINAHL

41. Comorbidities and Psychosocial Characteristics as Determinants of Dropout in Outpatient Cardiac Rehabilitation.

Author(s): Pardaens, Sofie; De Smedt, Delphine; De Bacquer, Dirk; Willems, Anne-Marie; Verstreken, Sofie; De Sutter, Johan

Source: Journal of Cardiovascular Nursing; Jan 2017; vol. 32 (no. 1); p. 14-21

Publication Date: Jan 2017

Publication Type(s): Academic Journal

Abstract: Background: Despite the clear benefits of cardiac rehabilitation (CR), a considerable number of patients drop out early. Objective: Therefore, we wanted to evaluate dropout in CR with a special focus on comorbidities and psychosocial background. Methods: Patients who attended CR

after acute coronary syndrome, cardiac surgery, or heart failure (N = 489) were prospectively included. Dropout was defined as attending 50% of the training sessions or less (n = 96 [20%]). Demographic and clinical characteristics, exercise parameters, and psychosocial factors were analyzed according to dropout, and those with a trend toward a significant difference (P < .10) were entered in a multivariate logistic model. Results: The presence of a cerebrovascular accident (4.18 [1.39-12.52]) involved a higher risk of dropout, and a comparable trend was seen for the presence of chronic obstructive pulmonary disease (2.55 [0.99-6.54]). Attending the training program only twice per week also implicated a higher risk of an early withdrawal (3.76 [2.23-6.35]). In contrast, patients on β -blockers were less likely to withdraw prematurely (0.47 [0.22-0.98]). Singles were more likely to drop out (2.89 [1.56-5.35]), as well as those patients who were dependent on others to get to CR (2.01 [1.16-3.47]). Finally, the reporting of severe problems on the anxiety/depression subscale of the EuroQOL-5D questionnaire involved a higher odds for dropout (7.17 [1.46-35.29]). Conclusions: Neither demographic characteristics nor clinical status or exercise capacity could independently identify patients who were at risk of dropout. The presence of comorbidities and a vulnerable psychosocial background rather seem to play a key role in dropout.

Database: CINAHL

42. Prevalence of mild cognitive impairment in employable patients after acute coronary event in cardiac rehabilitation.

Author(s): Salzwedel, Annett; Heidler, Maria-Dorothea; Haubold, Kathrin; Schikora, Martin; Reibis, Rona; Wegscheider, Karl; Jöbges, Michael; Völler, Heinz

Source: Vascular health and risk management; 2017; vol. 13 ; p. 55-60

Publication Date: 2017

Publication Type(s): Multicenter Study Journal Article Observational Study

PubMedID: 28260915

Available in full text at [Vascular Health and Risk Management](#) - from National Library of Medicine

Abstract: INTRODUCTION Adequate cognitive function in patients is a prerequisite for successful implementation of patient education and lifestyle coping in comprehensive cardiac rehabilitation (CR) programs. Although the association between cardiovascular diseases and cognitive impairments (CIs) is well known, the prevalence particularly of mild CI in CR and the characteristics of affected patients have been insufficiently investigated so far. METHODS In this prospective observational study, 496 patients (54.5 ± 6.2 years, 79.8% men) with coronary artery disease following an acute coronary event (ACE) were analyzed. Patients were enrolled within 14 days of discharge from the hospital in a 3-week inpatient CR program. Patients were tested for CI using the Montreal Cognitive Assessment (MoCA) upon admission to and discharge from CR. Additionally, sociodemographic, clinical, and physiological variables were documented. The data were analyzed descriptively and in a multivariate stepwise backward elimination regression model with respect to CI. RESULTS At admission to CR, the CI (MoCA score < 26) was determined in 182 patients (36.7%). Significant differences between CI and no CI groups were identified, and CI group was associated with high prevalence of smoking (65.9 vs 56.7%, P = 0.046), heavy (physically demanding) workloads (26.4 vs 17.8%, P < 0.001), sick leave longer than 1 month prior to CR (28.6 vs 18.5%, P = 0.026), reduced

exercise capacity (102.5 vs 118.8 W, $P = 0.006$), and a shorter 6-min walking distance (401.7 vs 421.3 m, $P = 0.021$) compared to no CI group. The age- and education-adjusted model showed positive associations with CI only for sick leave more than 1 month prior to ACE (odds ratio [OR] 1.673, 95% confidence interval 1.07-2.79; $P = 0.03$) and heavy workloads (OR 2.18, 95% confidence interval 1.42-3.36; $P < 0.01$). **CONCLUSION** The prevalence of CI in CR was considerably high, affecting more than one-third of cardiac patients. Besides age and education level, CI was associated with heavy workloads and a longer sick leave before ACE.

Database: Medline

43. The factors associated with sexual recovery in male patients with acute myocardial infarction under phase II cardiac rehabilitation.

Author(s): Lim, Seung-Kyu; Sim, Doo sun; Han, Jae-Young

Source: Journal of Clinical Nursing; Oct 2016; vol. 25 (no. 19/20); p. 2827-2834

Publication Date: Oct 2016

Publication Type(s): Academic Journal

Available in full text at [Journal of Clinical Nursing](#) - from John Wiley and Sons

Abstract: Aims and objectives The aim of the study was to assess the prognostic factors of short-term sexual recovery in patients with acute myocardial infarction after phase II cardiac rehabilitation for six weeks. Background It is often observed that patients who have suffered acute myocardial infarction and have sufficient aerobic capacity for sexual activity do not recover sexual activity. Until now, few studies have investigated factors associated with recovery of sexual activity. Design Observational study. Methods Among 627 male patients with acute myocardial infarction who were referred for cardiac rehabilitation from October 2010-September 2014, 72 were finally analysed. Subjects who met all the following criteria were included: (1) completed a questionnaire about sexual activity before and after phase II cardiac rehabilitation; (2) showed usual sexual activity before onset of acute myocardial infarction and (3) revealed decreased sexual activity at baseline of cardiac rehabilitation compared to preacute myocardial infarction status despite ≥ 5 maximal metabolic equivalents. Information on sociodemographic characteristics and cardiopulmonary function obtained before cardiac rehabilitation was used for the analysis. Results (1) Twenty-five of the 72 subjects (34.7%) had improved sexual activity after six weeks of cardiac rehabilitation, but 47 (65.3%) continued the status of no-recovery sexual activity after cardiac rehabilitation. (2) Age, body mass index and use of statins were significantly different between subjects who recovered and those who did not. (3) No differences in other clinical characteristics and cardiopulmonary functions were detected between the two groups. (4) Age and body mass index were significant factors associated with recovery of sexual activity. Conclusions Age and body mass index were significant factors associated with recovery of sexual activity in acute myocardial infarction patients. Aerobic capacity at baseline of cardiac rehabilitation was not an independent factor to predict the recovery of sexual

activity. Relevance to clinical practice These results should be considered when educating patients under phase II cardiac rehabilitation on their return to normal sexual activity.

Database: CINAHL

44. Rationale and design of a randomised clinical trial for an extended cardiac rehabilitation programme using telemonitoring: the TeleCaRe study.

Author(s): Snoek, Johan A; Meindersma, Esther P; Prins, Leonie F; Van't Hof, Arnoud W J; Hopman, Maria T; de Boer, Menko-Jan; de Kluiver, Ed P

Source: BMC cardiovascular disorders; Sep 2016; vol. 16 (no. 1); p. 175

Publication Date: Sep 2016

Publication Type(s): Randomized Controlled Trial Journal Article

PubMedID: 27599993

Available in full text at [BMC Cardiovascular Disorders](#) - from National Library of Medicine

Available in full text at [BMC Cardiovascular Disorders](#) - from BioMed Central

Available in full text at [BMC Cardiovascular Disorders](#) - from ProQuest

Abstract: BACKGROUND Despite the known positive effects of cardiac rehabilitation and an active lifestyle, evidence is emerging that it is difficult to attain and sustain the minimum recommendations of leisure time physical activity. The long-term benefits are often disappointing due to lack of adherence to the changes in life style. Qualitative research on patients' perspectives suggests that motivation for lifestyle change tends to diminish around 3 months after the index-event. The time most cardiac rehabilitation programmes end. The aim of the present study is to determine if prolongation of a traditional cardiac rehabilitation programme with additional heart rate based telemonitoring guidance for a period of 6 months results in better long term effects on physical and mental outcomes, care consumption and quality of life than traditional follow-up. METHOD In this single centre randomised controlled trial 120 patients with an absolute indication for cardiac rehabilitation will be randomised in a 1:1 ratio to an intervention group with 6 months of heart rate based telemonitoring guidance or a control group with traditional follow-up after cardiac rehabilitation. The primary endpoint will be VO₂peak after 12 months. Secondary endpoints are VO₂peak after 6 months, quality of life, physical-, emotional- and social functioning, cardiac structure, traditional risk profile, compliance to the use of the heart rate belt and smartphone, MACE and care-consumption. DISCUSSION The TeleCaRe study will provide insight into the added value of the prolongation of traditional cardiac rehabilitation with 6 months of heart rate based telemonitoring guidance. TRIAL REGISTRATION Dutch Trial Register: NTR4644 (registered 06/12/14).

Database: Medline

45. Cardiac Rehabilitation: Improving Function and Reducing Risk.

Author(s): SERVEY, JESSICA T.; STEPHENS, MARK

Source: American Family Physician; Jul 2016; vol. 94 (no. 1); p. 37-43

Publication Date: Jul 2016

Publication Type(s): Academic Journal

PubMedID: 27386722

Available in full text at [American family physician \[Am Fam Physician\] NLMUID: 1272646](#) - from EBSCOhost

Abstract: Cardiac rehabilitation is a comprehensive multidisciplinary program individually tailored to the needs of patients with cardiovascular disease. The overall goals focus on improving daily function and reducing cardiovascular risk factors. Cardiac rehabilitation includes interventions aimed at lowering blood pressure and improving lipid and diabetes mellitus control, with tobacco cessation, behavioral counseling, and graded physical activity. The physical activity component typically involves 36 sessions over 12 weeks, during which patients participate in supervised exercise under cardiac monitoring. There are also intensive programs that include up to 72 sessions lasting up to 18 weeks, although these programs are not widely available. Additional components of cardiac rehabilitation include counseling on nutrition, screening for and managing depression, and assuring up-to-date immunizations. Cardiac rehabilitation is covered by Medicare and recommended for patients following myocardial infarction, bypass surgery, and stent placement, and for patients with heart failure, stable angina, and several other conditions. Despite proven benefits in mortality rates, depression, functional capacity, and medication adherence, rates of referral for cardiac rehabilitation are suboptimal. Groups less likely to be referred are older adults, women, patients who do not speak English, and persons living in areas where cardiac rehabilitation is not locally available. Additionally, primary care physicians refer patients less often than cardiologists and cardiothoracic surgeons.

Database: CINAHL

OTHER

46. Venous Thromboembolism as Predictor of Acute Care Hospital Transfer and Inpatient Rehabilitation Length of Stay.

Author(s): Pinto, Shanti M.; Galang, Gary

Source: American Journal of Physical Medicine & Rehabilitation; Jun 2017; vol. 96 (no. 6); p. 367-373

Publication Date: Jun 2017

Publication Type(s): Academic Journal

Abstract: Objective: The aim of this study was to investigate the impact of venous thromboembolism (VTE) on rate of acute care hospital transfer, inpatient rehabilitation (IPR) length of stay (LOS), and functional outcomes. Design: This was a retrospective cohort study of 2312 consecutive patient

discharges from a single IPR facility over an 18-month period. Results: When age, sex, reason for admission, and admission Functional Independence Measure (FIM) scores were controlled for, those with VTE had nearly 2 times greater odds for transfer to acute care hospital than did those without a diagnosis of VTE. Inpatient rehabilitation LOS was 4.700 days (95% confidence interval [CI], 2.956-6.445 days) longer for those with a diagnosis of VTE prior to IPR admission and 2.287 days (95% CI, 1.026-3.547 days) longer for those with a diagnosis of VTE during IPR admission compared with those without a diagnosis of VTE. There was no difference in FIM change based on VTE diagnosis. Venous thromboembolism diagnosis during IPR was associated with a significant decrease in FIM efficiency (-0.358; 95% CI, -0.654 to -0.062) if diagnosed during IPR admission, but there was no difference in FIM efficiency if VTE was diagnosed prior to IPR. Conclusions: Patients with a diagnosis of VTE were more likely to be transferred to the acute care hospital and have longer IPR LOS independent of admission FIM scores. It is important to prevent development of VTE.

Database: CINAHL

47. What you may not know about your heart.

Author(s):

Source: Harvard Women's Health Watch; Feb 2017; vol. 24 (no. 6); p. 4-5

Publication Date: Feb 2017

Publication Type(s): Periodical

Available in full text at [Harvard Women's Health Watch](#) - from EBSCOhost

Available in full text at [Harvard Women's Health Watch](#) - from EBSCOhost

Available in full text at [Harvard women's health watch \[Harv Womens Health Watch\] NLMUID: 9423147](#) - from EBSCOhost

Available in full text at [Harvard Health Publications. Harvard Women's Health Watch](#) - from ProQuest

Abstract: The article offers information over prevalence of cardiovascular diseases in women. Topics discussed include observation of different risk factors for ischemic heart disease in women such as presence of high cholesterol; occurrence of plaque erosion among women that leads to coronary arteries blockage; assessment of potential cardiac symptoms through usage of electrocardiography (ECG); recommendation for several preventive measures such cardiac rehabilitation appointments management.

Database: CINAHL

48. Is there a correlation between late re-exploration after cardiac surgery and removal of epicardial pacemaker wires?

Author(s): Bougioukas, Ioannis; Jebran, Ahmad Fawad; Grossmann, Marius; Friedrich, Martin; Tirilomis, Theodor; Schoendube, Friedrich A; Danner, Bernhard Christoph

Source: Journal of cardiothoracic surgery; Jan 2017; vol. 12 (no. 1); p. 3

Publication Date: Jan 2017

Publication Type(s): Journal Article

PubMedID: 28122567

Available in full text at [Journal of Cardiothoracic Surgery](#) - from BioMed Central

Available in full text at [Journal of Cardiothoracic Surgery](#) - from ProQuest

Available in full text at [Journal of Cardiothoracic Surgery](#) - from National Library of Medicine

Abstract: BACKGROUND Re-exploration for bleeding accounts for increased morbidity and mortality after major cardiac operations. The use of temporary epicardial pacemaker wires is a common procedure at many departments. The removal of these wires postoperatively can potentially lead to a serious bleeding necessitating intervention. METHODS From Jan 2011 till Dec 2015 a total of 4244 major cardiac procedures were carried out at our department. We used temporary epicardial pacemaker wires in all cases. We collected all re-explorations for bleeding and pericardial tamponade from our surgical database and then we focused on the late re-explorations, meaning on the 4th postoperative day and thereafter, trying to identify the removal of the temporary pacemaker wires as the definite cause of bleeding. Patients' records and medication were examined. RESULTS Thirty-nine late re-explorations for bleeding, consisting of repeat sternotomies, thoracotomies and subxiphoid pericardial drainages, were gathered. Eight patients had an acute bleeding incidence after removal of the temporary wires (0.18%). In four of these patients, a pericardial drainage was inserted, whereas the remaining patients were re-explored through a repeat sternotomy. Two patients died of the acute pericardial tamponade, three had a blood transfusion and one had a wound infection. Seven out of eight patients were either on dual antiplatelet therapy or on combination of aspirin and vitamin K antagonist. CONCLUSIONS A need for re-exploration due to removal of the temporary pacemaker wires is a very rare complication, which however increases morbidity and mortality. Adjustment of the postoperative anticoagulation therapy at the time of removal of the wires could further minimize or even prevent this serious complication.

Database: Medline

49. Illness perception in patients with coronary artery disease: A systematic review.

Author(s): Al-Smadi, Ahmed Mohammad; Ashour, Ala; Hweidi, Issa; Gharaibeh, Beshar; Fitzsimons, Donna

Source: International Journal of Nursing Practice; Dec 2016; vol. 22 (no. 6); p. 633-648

Publication Date: Dec 2016

Publication Type(s): Academic Journal

Available in full text at [International Journal of Nursing Practice](#) - from John Wiley and Sons

Abstract: The aim of this study was to conduct a systematic review that investigates the differences in illness perception with age and gender in patients diagnosed with coronary artery disease. Previous studies show some discrepancies regarding the influence of age and gender on the specific dimensions of coronary artery disease patients' illness perception. A systematic review using a narrative synthesis process included preliminary synthesis, exploration of relationships and assessment of the robustness of the synthesis and findings was conducted. Search terms were used to identify research studies published between 1996 and December 2014 across four key databases: CINAHL, Medline, PsycINFO and Web of Science. A total of 14 studies met the inclusion criteria of the review. The review found that men had a stronger perception that their own behaviour had caused their illness than women. In addition, older patients had lower perceptions of the consequences and chronicity of their illness. This analysis concludes that some dimensions of illness perception vary according to age and gender of patients with coronary artery disease. These differences should be taken into consideration, particularly when providing health education and cardiac rehabilitation.

Database: CINAHL

50. Preventing Venous Thromboembolism in Adults.

Author(s): Tocco, Susan; Martin, Beth; Stacy, Kathleen M.

Source: Critical Care Nurse; Oct 2016; vol. 36 (no. 5)

Publication Date: Oct 2016

Publication Type(s): Academic Journal

Available in full text at [Critical Care Nurse](#) - from EBSCOhost

Available in full text at [Critical Care Nurse](#) - from EBSCOhost

Abstract: The article discusses role of critical care nurses in venous thromboembolism (VTE) prevention in critically ill adult patients. Topics explored include the need for nurses to assess VTE risk factors such as sepsis, immobilization, and heart failure, the effectiveness of VTE prophylaxis in reducing deep vein thrombosis risk, and the participation of nurses in quality improvement initiatives related to VTE prevention.

Database: CINAHL

51. Prognosis of Patients With Familial Hypercholesterolemia After Acute Coronary Syndromes.

Author(s): Nanchen, David; Gencer, Baris; Muller, Olivier; Auer, Reto; Aghlmandi, Soheila; Heg, Dik; Klingenberg, Roland; Räber, Lorenz; Carballo, David; Carballo, Sebastian; Matter, Christian M.; Lüscher, Thomas F.; Windecker, Stephan; Mach, François; Rodondi, Nicolas

Source: Circulation; Sep 2016; vol. 134 (no. 10); p. 698-709

Publication Date: Sep 2016

Publication Type(s): Academic Journal

PubMedID: 27462068

Available in full text at [Circulation](#) - from Ovid

Abstract: Background: Patients with heterozygous familial hypercholesterolemia (FH) and coronary heart disease have high mortality rates. However, in an era of high-dose statin prescription after acute coronary syndrome (ACS), the risk of recurrent coronary and cardiovascular events associated with FH might be mitigated. We compared coronary event rates between patients with and without FH after ACS. Methods: We studied 4534 patients with ACS enrolled in a multicenter, prospective cohort study in Switzerland between 2009 and 2013 who were individually screened for FH on the basis of clinical criteria according to 3 definitions: the American Heart Association definition, the Simon Broome definition, and the Dutch Lipid Clinic definition. We used Cox proportional models to assess the 1-year risk of first recurrent coronary events defined as coronary death or myocardial infarction and adjusted for age, sex, body mass index, smoking, hypertension, diabetes mellitus, existing cardiovascular disease, high-dose statin at discharge, attendance at cardiac rehabilitation, and the GRACE (Global Registry of Acute Coronary Events) risk score for severity of ACS. Results: At the 1-year follow-up, 153 patients (3.4%) had died, including 104 (2.3%) of fatal myocardial infarction. A further 113 patients (2.5%) experienced nonfatal myocardial infarction. The prevalence of FH was 2.5% with the American Heart Association definition, 5.5% with the Simon Broome definition, and 1.6% with the Dutch Lipid Clinic definition. Compared with patients without FH, the risk of coronary event recurrence after ACS was similar in patients with FH in unadjusted analyses, although patients with FH were >10 years younger. However, after multivariable adjustment including age, the risk was greater in patients with FH than without, with an adjusted hazard ratio of 2.46 (95% confidence interval, 1.07-5.65; P=0.034) for the American Heart Association definition, 2.73 (95% confidence interval, 1.46-5.11; P=0.002) for the Simon Broome definition, and 3.53 (95% confidence interval, 1.26-9.94; P=0.017) for the Dutch Lipid Clinic definition. Depending on which clinical definition of FH was used, between 94.5% and 99.1% of patients with FH were discharged on statins and between 74.0% and 82.3% on high-dose statins. Conclusions: Patients with FH and ACS have a >2-fold adjusted risk of coronary event recurrence within the first year after discharge than patients without FH despite the widespread use of high-intensity statins.

Database: CINAHL

52. Type a Personality, Stress, Anxiety and Health Locus of Control in Patients with Acute Myocardial Infarction.

Author(s): Miličić, Davor; Brajković, Lovorka; Maček, Jana Ljubas; Andrić, Adriana; Ardalić, Žarko; Buratović, Tina; Marčinko, Darko

Source: Psychiatria Danubina; Dec 2016; vol. 28 (no. 4); p. 409-414

Publication Date: Dec 2016

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 27855433

Available in full text at [Psychiatria Danubina \[Psychiatr Danub\] NLMUID: 9424753](#) - from EBSCOhost

Abstract: BACKGROUND The aim of this study was to define the level of patient exposure to stress in the previous 5 years before acute myocardial infarction (AMI), personality type A assessment, ways of coping with stressful situations, health locus of control and the grade of anxiety (as state and personality trait). SUBJECTS AND METHODS 118 patients who were consecutively hospitalized during 8 months in our Coronary care unit due to AMI, took part in the study. As controls we examined 103 healthy male volunteers (mean age 60.8±2.93 years). RESULTS AMI patients presented with higher degree of behavior corresponding to type A personality ($F=18.756$, $p=0.000$), and also showed higher degree of anxiety, as state and personality trait ($F=23.634$, $p=0.001$; $F=19.253$, $p=0.000$), in comparison to healthy controls. Also, AMI patients were significantly more often coping emotionally in stressful situations than control subjects ($F=21.354$, $p=0.000$), and they had significantly higher external locus of control compared to healthy subjects ($F=13.284$, $p=0.001$). They often considered that they were not able to control their health, namely they evaluated their ability to control their health as weak and were much more often directed to cope with intense emotions ($r=0.24$, $p=0.002$). CONCLUSIONS The study showed that AMI patients psychologically differed from the healthy controls, indicating that they were prone to maladaptive behavioral patterns which could favor development and complicate course of coronary artery disease.

Database: Medline

53. Patient factors associated with quality of life in atrial fibrillation.

Author(s): Randolph, Tiffany C; Simon, DaJuanicia N; Thomas, Laine; Allen, Larry A; Fonarow, Gregg C; Gersh, Bernard J; Kowey, Peter R; Reiffel, James A; Naccarelli, Gerald V; Chan, Paul S; Spertus, John A; Peterson, Eric D; Piccini, Jonathan P; ORBIT AF Investigators and Patients

Source: American heart journal; Dec 2016; vol. 182 ; p. 135-143

Publication Date: Dec 2016

Publication Type(s): Journal Article Observational Study

PubMedID: 27914493

Available in full text at [American Heart Journal, The](#) - from ProQuest

Abstract: BACKGROUND As treatment options for atrial fibrillation (AF) increase, more attention is focused on patients' experiences and quality of life (QoL). However, little is known about the factors associated with these outcomes. METHODS The Atrial Fibrillation Effect on Quality-of-life (AFEQT) is a disease-specific QoL tool for AF, with domain and summary scores ranging from 0 (the worst QoL) to 100. Using multivariable linear regression, we evaluated factors associated with baseline AFEQT Summary and Subscale Scores in ORBIT AF, a large, community-based AF registry. Independent associations were reported as coefficient estimates in scores and 95% confidence intervals

(CI).RESULTS Overall, AFEQT was assessed in 2007 AF outpatients from 99 sites. Median age (IQR) was 76 years (67-82) and 43% were female. The median AFEQT summary score was 82 (67-94). Female sex, younger age, new onset AF, higher heart rate, obstructive sleep apnea, symptomatic heart failure (HF), chronic obstructive pulmonary disease and coronary artery disease were all independently associated with reduced QoL. Female sex [Estimate -7.03, 95% CI (-9.31, -4.75)] and new onset versus permanent AF [Estimate -7.44, 95% CI (-11.03, -3.84)] were independently associated with increased symptoms. NYHA Class III or IV HF [Estimate -14.44, 95% CI (-19.46, -8.76)] and female sex [Estimate -7.91, 95% CI (-9.95, -5.88)] were most independently associated with impaired daily activities. CONCLUSIONS QoL in patients with AF varies widely and is associated with several patient factors. Understanding patient factors independently associated with worse QoL can be a foundation for tailoring treatment.

Database: Medline

54. Early aspirin desensitization in unstable patients with acute coronary syndrome: Short and long-term efficacy and safety.

Author(s): Córdoba-Soriano, Juan Gabriel; Corbí-Pascual, Miguel; López-Neyra, Isabel; Navarro-Cuartero, Javier; Hidalgo-Olivares, Víctor; Barrionuevo-Sánchez, Maria Isabel; Prieto-Mateos, Daniel; Gutiérrez-Díez, Antonio; Gallardo-López, Arsenio; Fuentes-Manso, Raquel; Gómez-Pérez, Alberto; Lafuente-Gormaz, Carlos; Jiménez-Mazuecos, Jesús

Source: European heart journal. Acute cardiovascular care; Nov 2016; vol. 5 (no. 7); p. 41-50

Publication Date: Nov 2016

Publication Type(s): Journal Article

PubMedID: 26589727

Abstract :BACKGROUND Aspirin hypersensitivity is not a rare condition among patients with acute coronary syndrome. However, despite the publication of several successful desensitization protocols, the procedure is not as widespread as expected. We present a cohort of patients with acute coronary syndrome undergoing aspirin desensitization to evaluate its short- and long-term efficacy and safety and to reinforce data from previous studies. METHODS Of 1306 patients admitted to our Coronary Care Unit between February 2011 and February 2013, 24 (1.8%) had a history of aspirin hypersensitivity. All 24 patients underwent an eight-dose aspirin desensitization protocol (0.1, 0.3, 1, 3, 10, 25, 50 and 100 mg of aspirin given by mouth every 15 minutes) after premedication with antihistamines and corticosteroids or antileucotrienes. Previously prescribed β blockers and angiotensin-converting enzyme inhibitors were not discontinued. All patients were desensitized within 72 hours of admission. Those requiring urgent catheterization (five patients with ST segment elevation myocardial infarction) were desensitized within 12 hours of catheterization and the remainder before catheterization. RESULTS All patients were successfully desensitized and only one presented with an urticarial reaction. The five patients with ST segment elevation myocardial infarction were treated with abciximab until desensitization was complete. All but one patient underwent catheterization and 20 underwent percutaneous coronary intervention, most (66%) with the implantation of a bare metal stent. At follow-up (a minimum of 6-24 months), only two patients had discontinued aspirin, both due to gastrointestinal bleeding, and no hypersensitivity reaction had occurred. CONCLUSIONS Aspirin desensitization is effective and safe in unstable patients with acute coronary syndrome in both the short and long term.

Database: Medline

55. Incidence and risk factors for thromboembolism and major bleeding in patients with mechanical valve prosthesis: A nationwide population-based study.

Author(s): Labaf, Ashkan; Svensson, Peter J; Renlund, Henrik; Jeppsson, Anders; Sjölander, Anders

Source: American heart journal; Nov 2016; vol. 181 ; p. 1-9

Publication Date: Nov 2016

Publication Type(s): Journal Article

PubMedID: 27823679

Available in full text at [American Heart Journal, The](#) - from ProQuest

Abstract: BACKGROUND Risk factors of stroke/thromboembolism (TE) and major bleeding, and incidence of these events in specific age categories in warfarin-treated patients with mechanical heart valves (MHV) are uncertain. Our objective was to calculate event rates in specific age categories and identify risk factors for adverse events. METHODS AND RESULTS We identified 4,810 treatment periods with MHV between January 2006 and December 2011 in the Auricula and Swedish Web system for Enhancement and Development of Evidence-based care in Heart disease Evaluated According to Recommended Therapies registries. There were 3,751 treatment periods with aortic valve replacements (AVR) and 866 with mitral valve replacements (MVR). Median follow-up time was 4.5 years (IQR, 1.5-6.0). Time in therapeutic range with warfarin for patients with AVR was 74.2% for international normalized ratio of 2.0 to 3.0, with 72% of the patients having this target range. Rate of stroke/TE for AVR and MVR was 1.3 and 1.6 per 100 patient years, respectively (P=.20). The rate of first major bleeding was 2.6 and 3.9 per 100 patient years with AVR and MVR, respectively (P<.001). By multivariate analysis for AVR, age (hazard ratio [HR], 1.02; 95% confidence interval [CI], 1.01-1.03 per year) and previous stroke (HR, 2.4; 95% CI, 1.7-3.5) emerged as independent risk factors for stroke/TE. Heart failure (HR, 0.9; 95% CI, 0.6-1.4) and atrial fibrillation (HR, 1.0; 95% CI, 0.7-1.4) were not associated to stroke/TE. For major bleeding events, age (HR, 1.02; 95% CI, 1.01-1.03 per year) and previous major bleeding (HR, 2.5; 95% CI, 1.9-3.3) emerged as independent risk factors for AVR. CONCLUSION In a nationwide cohort study with MHV and high time in therapeutic range, heart failure and atrial fibrillation did not appear as risk factors of stroke/TE.

Database: Medline

56. The effectiveness and experience of self-management following acute coronary syndrome: A review of the literature.

Author(s): Guo, Ping; Harris, Ruth

Source: International Journal of Nursing Studies; Sep 2016; vol. 61 ; p. 29-51

Publication Date: Sep 2016

Publication Type(s): Academic Journal

Abstract: Objectives To evaluate the effectiveness of interventions used to support self-management, and to explore patients' experiences after acute coronary syndrome in relation to self-management. Design Scoping review. Data sources Keyword search of CINAHL Plus, Medline, the Cochrane Library, and PsycINFO databases for studies conducted with adult population and

published in English between 1993 and 2014. Review methods From title and abstract review, duplicated articles and obviously irrelevant studies were removed. The full texts of the remaining articles were assessed against the selection criteria. Studies were included if they were original research on: (1) effectiveness of self-management interventions among individuals following acute coronary syndrome; or (2) patients' experience of self-managing recovery from acute coronary syndrome. Results 44 articles (19 quantitative and 25 qualitative) were included. Most studies were conducted in western countries and quantitative studies were UK centric. Self-management interventions tended to be complex and include several components, including education and counselling, goal setting and problem solving skills which were mainly professional-led rather than patient-led. The review demonstrated variation in the effectiveness of self-management interventions in main outcomes assessed – anxiety and depression, quality of life and health behavioural outcomes. For most participants in the qualitative studies, acute coronary syndrome was unexpected and the recovery trajectory was a complex process. Experiences of making adjustment and adopting lifestyle changes following acute coronary syndrome were influenced by subjective life experiences and individual, sociocultural and environmental contexts. Participants' misunderstandings, misconceptions and confusion about disease processes and management were another influential factor. They emphasised a need for ongoing input and continued support from health professionals in their self-management of rehabilitation and recovery, particularly during the initial recovery period following hospital discharge. Conclusions Evidence of the effectiveness of self-management interventions among people with acute coronary syndrome remains inconclusive. Findings from the patients' experiences in relation to self-management following acute coronary syndrome provided important insights into what problems patients might have encountered during self-managing recovery and what support they might need, which can be used to inform the development of self-management interventions. Theoretical or conceptual frameworks have been minimally employed in these studies and should be incorporated in future development and evaluation of self-management interventions as a way of ensuring clarity and consistency related to how interventions are conceptualised, operationalised and empirically studied. Further research is needed to evaluate self-management interventions among people following acute coronary syndrome for sustained effect and within different health care contexts.

Database: CINAHL

57. The Association Between Complementary and Alternative Medicine and Health Status Following Acute Myocardial Infarction.

Author(s): Shafiq, Ali; Jayaram, Natalie; Gosch, Kensey L; Spertus, John A; Buchanan, Donna M; Decker, Carole; Kosiborod, Mikhail; Arnold, Suzanne V

Source: Clinical cardiology; Aug 2016; vol. 39 (no. 8); p. 440-445

Publication Date: Aug 2016

Publication Type(s): Comparative Study Multicenter Study Journal Article Observational Study

PubMedID: 27244586

Available in full text at [Clinical Cardiology](#) - from Wiley Online Library Free Content NHS Collection

Abstract: BACKGROUND Complementary and alternative medicines (CAM) are commonly used in patients with cardiovascular disease. Although there is lack of evidence regarding the benefit of CAM on cardiovascular morbidity and mortality, health-status benefits could justify CAM use. HYPOTHESIS Adoption of mind-body CAM after acute myocardial infarction (AMI) is associated with improved health status, though other forms of CAM are not associated with health-status improvement. METHODS Patients with AMI from 24 US sites were assessed for CAM use (categorized as mind-body, biological, and manipulative therapies) prior to and 1 year after AMI. Among patients who reported not using CAM prior to their AMI, association of initiating CAM on patients' health status at 1 year after AMI was assessed using Angina Frequency and Quality of Life domains from the Seattle Angina Questionnaire and the Short Form-12 Physical and Mental Component scales. Multivariable regression helped examine association between use of different CAM therapies and health status. RESULTS Among 1884 patients not using CAM at the time of their AMI, 33% reported initiating ≥ 1 forms of CAM therapy 1 year following AMI: 62% adopted mind-body therapies, 42% adopted biological therapies, and 15% began using manipulative therapies. In both unadjusted and adjusted analyses, we found no association between different types of CAM use and health-status improvement after AMI. CONCLUSIONS There was no association between CAM use and health-status recovery after AMI. Until randomized trials suggest otherwise, these findings underscore the importance of focusing on therapies with proven effectiveness after AMI.

Database: Medline

58. Self-monitoring and self-management of oral anticoagulation.

Author(s): Heneghan, Carl J; Garcia-Alamino, Josep M; Spencer, Elizabeth A; Ward, Alison M; Perera, Rafael; Bankhead, Clare; Alonso-Coello, Pablo; Fitzmaurice, David; Mahtani, Kamal R; Onakpoya, Igho J

Source: The Cochrane database of systematic reviews; Jul 2016; vol. 7 ; p. CD003839

Publication Date: Jul 2016

Publication Type(s): Research Support, Non-u.s. Gov't Meta-analysis Journal Article Review

PubMedID: 27378324

Available in full text at [Cochrane Library, The](#) - from John Wiley and Sons

Abstract: BACKGROUND The introduction of point-of-care devices for the management of patients on oral anticoagulation allows self-testing by the patient at home. Patients who self-test can either adjust their medication according to a pre-determined dose-INR (international normalized ratio) schedule (self-management), or they can call a clinic to be told the appropriate dose adjustment (self-monitoring). Increasing evidence suggests self-testing of oral anticoagulant therapy is equal to or better than standard monitoring. This is an updated version of the original review published in 2010. OBJECTIVE To evaluate the effects on thrombotic events, major haemorrhages, and all-cause mortality of self-monitoring or self-management of oral anticoagulant therapy compared to standard monitoring. SEARCH METHODS For this review update, we re-ran the searches of the Cochrane Central Register of Controlled Trials (CENTRAL), 2015, Issue 6, the Cochrane Library, MEDLINE (Ovid, 1946 to June week 4 2015), Embase (Ovid, 1980 to 2015 week 27) on 1 July 2015. We checked bibliographies and contacted manufacturers and authors of relevant studies. We did not apply any language restrictions. SELECTION CRITERIA Outcomes analysed were thromboembolic events, mortality, major haemorrhage, minor haemorrhage, tests in therapeutic range, frequency of testing, and feasibility of self-monitoring and self-management. DATA COLLECTION AND ANALYSIS Review authors independently extracted data and we used a fixed-effect

model with the Mantzel-Haenzel method to calculate the pooled risk ratio (RR) and Peto's method to verify the results for uncommon outcomes. We examined heterogeneity amongst studies with the Chi(2) and I(2) statistics and used GRADE methodology to assess the quality of evidence. MAIN RESULTS We identified 28 randomised trials including 8950 participants (newly incorporated in this update: 10 trials including 4227 participants). The overall quality of the evidence was generally low to moderate. Pooled estimates showed a reduction in thromboembolic events (RR 0.58, 95% CI 0.45 to 0.75; participants = 7594; studies = 18; moderate quality of evidence). Both, trials of self-management or self-monitoring showed reductions in thromboembolic events (RR 0.47, 95% CI 0.31 to 0.70; participants = 3497; studies = 11) and (RR 0.69, 95% CI 0.49 to 0.97; participants = 4097; studies = 7), respectively; the quality of evidence for both interventions was moderate. No reduction in all-cause mortality was found (RR 0.85, 95% CI 0.71 to 1.01; participants = 6358; studies = 11; moderate quality of evidence). While self-management caused a reduction in all-cause mortality (RR 0.55, 95% CI 0.36 to 0.84; participants = 3058; studies = 8); self-monitoring did not (RR 0.94, 95% CI 0.78 to 1.15; participants = 3300; studies = 3); the quality of evidence for both interventions was moderate. In 20 trials (8018 participants) self-monitoring or self-management did not reduce major haemorrhage (RR 0.95, 95% CI, 0.80 to 1.12; moderate quality of evidence). There was no significant difference found for minor haemorrhage (RR 0.97, 95% CI 0.67 to 1.41; participants = 5365; studies = 13). The quality of evidence was graded as low because of serious risk of bias and substantial heterogeneity (I(2) = 82%).AUTHORS' CONCLUSIONS Participants who self-monitor or self-manage can improve the quality of their oral anticoagulation therapy. Thromboembolic events were reduced, for both those self-monitoring or self-managing oral anticoagulation therapy. A reduction in all-cause mortality was observed in trials of self-management but not in self-monitoring, with no effects on major haemorrhage.

Database: Medline

59. Self-monitoring for atrial fibrillation recurrence in the discharge period post-cardiac surgery using an iPhone electrocardiogram.

Author(s): Lowres, Nicole; Mulcahy, Georgina; Gallagher, Robyn; Ben Freedman, Saul; Marshman, David; Kirkness, Ann; Orchard, Jessica; Neubeck, Lis

Source: European journal of cardio-thoracic surgery : official journal of the European Association for Cardio-thoracic Surgery; Jul 2016; vol. 50 (no. 1); p. 44-51

Publication Date: Jul 2016

Publication Type(s): Multicenter Study Journal Article Evaluation Studies

PubMedID: 26850266

Available in full text at [European Journal of Cardio-Thoracic Surgery](#) - from Highwire Press

Available in full text at [European journal of cardio-thoracic surgery: official journal of the European Association for Cardio-thoracic Surgery \[Eur J Cardiothorac Surg\] NLMUID: 8804069](#) - from EBSCOhost

Abstract: OBJECTIVE SPostoperative atrial fibrillation (POAF) occurs in 25-40% of patients following cardiac surgery, and is associated with a significant increased risk of stroke and mortality. Routine surveillance is not performed post-discharge; however, recurrence of POAF can occur in up to 30% of patients discharged in sinus rhythm. This study aimed to determine the feasibility of patients self-monitoring with an iPhone handheld electrocardiogram (iECG) to identify recurrence of POAF in the post-discharge period following cardiac surgery. METHODS Patients with POAF following cardiac surgery were eligible for participation if they had no prior history of atrial fibrillation (AF) and were

discharged home in stable sinus rhythm. Participants were provided with an iECG and asked to record a 30-s iECG, four times per day for 4 weeks post-discharge. iECGs were automatically transmitted to a secure server, and reviewed for the presence of AF by the research team and a validated algorithm. All participants also received brief education on AF. RESULTS Forty-two participants completed the intervention (mean age 69 ± 9 years, 80% male). Self-monitoring for POAF recurrence using an iECG was feasible and acceptable, and participants felt empowered. Self-monitoring identified 24% (95% confidence interval, 12-39%) with an AF recurrence within 17 days of hospital discharge. These participants were significantly younger than those without AF recurrence (64 ± 7 vs 70 ± 10 years; $P = 0.025$), and had a significantly lower CHA₂DS₂-VASc score (2.3 ± 1.2 vs 3.7 ± 2.3 ; $P = 0.007$). However, 80% were at high enough stroke risk to warrant consideration of anticoagulation, i.e. CHA₂DS₂-VASc score ≥ 2 . Only 30% of recurrences were associated with palpitations. Participation also improved AF knowledge from 6.4 ± 1.8 to 7.3 ± 1.8 ($P = 0.02$), of a total score of 10. CONCLUSIONS Providing patients with an iECG is a non-invasive, inexpensive, convenient and feasible way to monitor for AF recurrence in post-cardiac surgery patients. It also provides a mechanism to provide knowledge about the condition and also potentially reduce anxiety. The success of patients using this technology also has implications for extending the use of iECG self-monitoring to other patient groups such as those undergoing antiarrhythmic interventions for AF.

Database: Medline

NICE Resources

Round up of Guidance and advice.

For the full range of Guidance please see <https://www.nice.org.uk/guidance/conditions-and-diseases/cardiovascular-conditions>

60. [Myocardial infarction: secondary prevention](#)

Everything NICE has said on secondary prevention of myocardial infarction in primary and secondary care in an interactive flowchart

NICE Pathway Published November 2013 Last updated May 2017

61. [New generation cardiac CT scanners \(Aquilion ONE, Brilliance iCT, Discovery CT750 HD and Somatom Definition Flash\) for cardiac imaging in people with suspected or known coronary artery disease in whom imaging is difficult with earlier generation CT scanners \(DG3\)](#)

Evidence-based recommendations on new generation computed tomography (CT) scanners for cardiac imaging for suspected or known coronary artery disease Diagnostics guidance Published January 2012 Last updated July 2017

62. [ENDURALIFE powered CRT-D devices for treating heart failure](#)

Medical technologies guidance [MTG33] Published date: March 2017

63. [Ekso exoskeleton for rehabilitation in people with neurological weakness or paralysis \(MIB93\)](#)

Medtech innovation briefing [MIB93] Published date: January 2017

64. [Chest pain of recent onset: assessment and diagnosis \(CG95\)](#)

Evidence-based recommendations on assessing and diagnosing chest pain of recent onset in adults
Clinical guideline Published March 2010 Last updated November 2016

65. [Stable angina: management \(CG126\)](#)

Evidence-based recommendations on the management of stable angina in adults Clinical
guideline Published July 2011 Last updated August 2016

66. [Stable angina \(QS21\)](#)

Evidence-based statements to deliver quality improvements in the care of adults with stable angina
Quality standard Published August 2012 Last updated February 2017

[Impella 2.5 for haemodynamic support during high-risk percutaneous coronary interventions \(MIB89\)](#)

Medtech innovation briefing [MIB89] Published date: November 2016

67. [Cardiovascular disease: risk assessment and reduction, including lipid modification \(CG181\)](#)

Evidence-based recommendations on risk assessment and reduction (including lipid modification) of
cardiovascular disease (CVD) in adults
Clinical guideline Published July 2014 Last updated September 2016

68. [Percutaneous endoscopic laser balloon pulmonary vein isolation for atrial fibrillation \(IPG563\)](#)

Interventional procedures guidance [IPG563] Published date: July 2016

69. [Lutonix drug-coated balloon for peripheral arterial disease \(MIB72\)](#)

Medtech innovation briefing [MIB72] Published date: July 2016

Please note that information provided in this update is collated from a variety of sources but coverage of the topic is not comprehensive.

Every effort has been made to ensure that the information provided is accurate, up-to-date and complete. However, articles may contain errors and the inclusion of a web link does not imply approval of the contents of the website. No responsibility can be accepted for any action taken on the basis of this information.

Not found a topic you are interested in above?

If you would like a specific or more comprehensive search, tailored to your need, please contact us and we will be happy to run an evidence search for you.

More details can be found here: <http://www.eastcheshirehslibrary.net/outreach.html>

We also have a highly personalised updating service called Knowledgeshare which delivers information tailored to your own specific interests. <http://www.eastcheshirehslibrary.net/keep-up-to-date.html>

