Articles

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Accuracy of Fractional Flow Reserve Derived From Coronary Angiography.
[FFRangio measured from the coronary angiogram alone has a high sensitivity, specificity, and accuracy compared with pressure wire-derived FFR. FFRangio has the promise to substantially increase physiological coronary lesion assessment in the catheterization laboratory, thereby potentially leading to improved patient outcomes]

Angioplasty versus stenting for infrapopliteal arterial lesions in chronic limb-threatening ischaemia.
Hsu CC. Cochrane Database of Systematic Reviews 2018;12:CD009195.
[Chronic limb-threatening ischaemia (CLTI) due to occlusive disease in the infrapopliteal arterial circulation (below-knee circulation) can be treated via an endovascular technique by a balloon opening the narrowed vessel, so called angioplasty, with or without stenting. Endovascular interventions in the infrapopliteal vasculature may improve symptoms in patients with CLTI by re-establishing in-line blood flow to the foot.]

Capnography: not just for cardiac arrest.
[[Book review] Capnography has been used by the ambulance service for quite some time now—but it's not always part of assessing the non-cardiac arrest patient. Discussion of Troy Valente's book Capnography—King of the ABCs: A Systematic Approach for Paramedics. This topic remains an area that paramedics could learn a lot more about. Book includes a substantial amount of information, all tailored to paramedics.]
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Chronic Heart Failure and Exercise Rehabilitation: A Systematic Review and Meta-Analysis.
[Exercise significantly improves QOL and physical function. Current evidence suggests that engagement with exercise is a more important factor in achieving improvement than how the exercise is performed. Future research should aim to identify and address barriers to engagement in exercise rehabilitation in this population.]
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Comparison of treatment options for depression in heart failure: A network meta-
Included randomized clinical trials (RCTs) compared interventions (Exercise therapy (ET), cognitive behavioral therapy (CBT) or antidepressant (AD) medications) for depression in heart failure patients. This meta-analysis is suggestive of therapeutic benefit of ET and (CBT) in comparison to usual standard of care in treating depression in HF patients. However, comparison among the three interventions was not conclusive.

Congenital heart anomalies and non-white ethnicity are among the factors associated with poor survival rates in people with Down syndrome.

The authors reported that people with Down syndrome lived approximately 28 years less than the general population. Those with the poorest survival rates were people with congenital heart anomalies, non-white ethnicity, more severe intellectual disabilities, low birth weight, additional medical conditions, feeding and mobility problems, and the children of younger mothers and parents with lower educational levels.

Contrast-enhanced ultrasound and/or colour duplex ultrasound for surveillance after endovascular abdominal aortic aneurysm repair: a systematic review and economic evaluation.

Current surveillance practice is very heterogeneous. CDU may be a safe and cost-effective alternative to CTA, with CTA being reserved for abnormal/inconclusive CDU cases. Future work: Research is needed to validate the safety of modified, more-targeted surveillance protocols based on the use of CDU and CEU. The role of radiography for surveillance after EVAR requires clarification.

Development and validation of a score to detect paroxysmal atrial fibrillation after stroke.

The AS5F score can select patients for prolonged ECG monitoring after ischemic stroke to detect pAF.

Double sequential external defibrillation for refractory ventricular fibrillation out-of-hospital cardiac arrest: A systematic review and meta-analysis.

Rhe effectiveness of DSED remains unclear. Further well-designed prospective studies are needed to determine whether DSED has a role in the treatment of refractory VF.

Efficacy and safety of statin therapy in older people: a meta-analysis of individual participant data from 28 randomised controlled trials.

Statin therapy produces significant reductions in major vascular events irrespective of age,
but there is less direct evidence of benefit among patients older than 75 years who do not already have evidence of occlusive vascular disease. This limitation is now being addressed by further trials.]

Freely available online

**Implantable cardiac defibrillators for people with non-ischaemic cardiomyopathy.**
El Moheb M. *Cochrane Database of Systematic Reviews* 2018;12:CD012738.
[There is evidence that implantable cardioverter-defibrillator (ICD) for primary prevention in people with an ischaemic cardiomyopathy improves survival rate. The evidence supporting this intervention in people with non-ischaemic cardiomyopathy is not as definitive, with the recently published DANISH trial finding no improvement in survival rate. A systematic review was needed to evaluate the benefits and harms of using ICDs for primary prevention in people with non-ischaemic cardiomyopathy.]

Freely available online

**Interventions to reduce mortality from in-hospital cardiac arrest: a mixed-methods study.**
[Standardisation and automation of the collection, interpretation and response to patient physiological observations may have the greatest potential to reduce avoidable mortality from in-hospital cardiac arrest.]

Freely available online

**Linagliptin Effects on Heart Failure and Related Outcomes in Individuals With Type 2 Diabetes Mellitus at High Cardiovascular and Renal Risk in CARMELINA.**
McGuire DK. *Circulation* 2018;:
[In a large, international cardiovascular outcome trial in participants with type 2 diabetes mellitus and concomitant atherosclerotic cardiovascular disease and/or kidney disease, linagliptin did not affect the risk of hHF or other selected HF-related outcomes, including among participants with and without a history of HF, across the spectrum of kidney disease, and independent of previous left ventricular ejection fraction.]

**Postarrest Steroid Use May Improve Outcomes of Cardiac Arrest Survivors.**
[To evaluate the ramifications of steroid use during postarrest care.]

**Refining Prediction of Atrial Fibrillation-Related Stroke Using the P2-CHA2DS2-VASc Score.**
[Abnormal P-wave axis—an ECG correlate of left atrial abnormality—improves ischemic stroke prediction in AF. Compared with CHA2DS2-VASc, the P2-CHA2DS2-VASc is a better prediction tool for AF-related ischemic stroke.]

**Relationship of atopic dermatitis with stroke and myocardial infarction: A meta-analysis.**
Yuan M. *Medicine (Baltimore)* 2018;97(49):e13512.
Conclusions: AD is independently associated with an increased risk of stroke and MI, especially in male subjects and ischemic stroke and the risk is associated with the severity of AD.

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[Atrial fibrillation frequently develops in patients with sepsis and is associated with increased morbidity and mortality. Unfortunately, risk factors for new-onset atrial fibrillation in sepsis have not been clearly elucidated. Clarification of the risk factors for atrial fibrillation during sepsis may improve our understanding of the mechanisms of arrhythmia development and help guide clinical practice.]

The Effects of Physical Training on Quality of Life, Aerobic Capacity, and Cardiac Function in Older Patients With Heart Failure: A Meta-Analysis.
[The present meta-analysis showed that physical training has positive effects on QoL, aerobic capacity, and cardiac function in older patients with HF. Practitioners should consider both training volume and mode when designing physical training programs in order to improve QoL and aerobic capacity in older patients with HF.]
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Thrombolytic therapy for pulmonary embolism.
Hao Q. Cochrane Database of Systematic Reviews 2018;12:CD004437.
[Thrombolytic therapy is usually reserved for patients with clinically serious or massive pulmonary embolism (PE). Evidence suggests that thrombolytic agents may dissolve blood clots more rapidly than heparin and may reduce the death rate associated with PE. However, there are still concerns about the possible risk of adverse effects of thrombolytic therapy, such as major or minor haemorrhage. This is the third update of the Cochrane review first published in 2006.]

Trends Over Time in Drug Administration During Adult In-Hospital Cardiac Arrest.
[Clinical providers have access to a number of pharmacologic agents during in-hospital cardiac arrest. Few studies have explored medication administration patterns during in-hospital cardiac arrest. Herein, we examine trends in use of pharmacologic interventions during in-hospital cardiac arrest both over time and with respect to the American Heart Association Advanced Cardiac Life Support guideline updates.]

Use of hormone replacement therapy and risk of venous thromboembolism: nested case-control studies using the QResearch and CPRD databases.
[To assess the association between risk of venous thromboembolism and use of different types of hormone replacement therapy.]
Guidelines

The following new guidance has recently been published:

**Optimal timing of coronary angiography and revascularization in patients with NSTEACS**
UpToDate; 2019.
https://www.uptodate.com/contents/non-st-elevation-acute-coronary-syndromes-revascularization?sectionName=Timing&topicRef=8353&anchor=H73942117&source=see_link&mkt_tok=eyJpIjoiTXpNd01XRTVaV1ZrTURJdIsIzYnQrSOGhjYnc2QVZEUVwvK05NYjPmUmFTNWJaYk1sREIeB3HfaEFJXC9NNDlcL1vvRHp1NnkIhQFJyS3lQcmVFN29zQ0pxN3pOV2twSk51ZjE1amJWaGtcL1IQQ3RneHVOZWdobkRzcmVRNBcF5YUJnQxK3U09FNEQ2V3p4NNo3UVZjIn0%3D#H73942117

[Randomized trials of patients with non-ST elevation acute coronary syndromes (NSTEACS) have found that most patients at high risk for adverse cardiovascular events benefit from coronary angiography and possible percutaneous coronary intervention within 48 hours of diagnosis. In addition, there is some evidence that individuals at very high risk for adverse cardiovascular events benefit from earlier invasive evaluation]

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Reports

The following report(s) may be of interest:

**Aspirin bleeding risk 'balances out' lower heart attack risk in 'worried well'**
NHS Behind the Headlines; 2019.

[In this study UK researchers reviewed all the current evidence on the subject. After pooling data, researchers estimated that for every 265 people who took aspirin, only 1 would benefit from preventing a heart attack or stroke. On the other hand, for every 210 people who took aspirin, 1 would experience a serious bleeding event.]

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**Aspirin did not prevent deaths or disability in healthy older adults.**
NIHR Dissemination Centre; 2018.
https://discover.dc.nihr.ac.uk/content/signal-000696/aspirin-did-not-prevent-deaths-or-disability-in-healthy-older-olds

[NIHR Signal. In the ASPREE trial, older adults with no apparent cardiovascular disease who took daily aspirin saw no benefit in terms of reducing the chance of dying or having dementia or disability. Instead, it slightly increased their mortality and bleeding risk - aspirin was associated with an excess of 1.6 deaths per 1,000 people per year. Half of these deaths were due to cancer.]

Freely available online

**Blood pressure warnings about the 'keto diet' may not apply to humans.**
NHS Behind the Headlines; 2019.
[Researchers fed one group of rats a high-fat diet and another group a normal-fat diet. They found rats on the high-fat diet had an increase in blood pressure of around 20% compared with the rats on a normal-fat diet. But it’s not accurate to describe the diet used in the study as a "keto diet", as it consisted mainly of lard and rodent feed and was higher calorie than the normal-fat diet used in comparison. This study tells us little about the potential effects of such a diet on humans.]
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The best dose of aspirin for cardiovascular protection may depend on body weight.
NIHR Dissemination Centre; 2018.
https://discover.dc.nihr.ac.uk/content/signal-000699/the-best-dose-of-aspirin-for-cardiovascular-protection-may-depend-on-body-weight
[NIHR Signal. Low dose aspirin only appears to be effective at preventing stroke or heart attack for people weighing less than 70kg, while higher doses are better for people who weigh over 70kg.]
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