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**Early Neuromuscular Blockade in the Acute Respiratory Distress Syndrome.**
[Among patients with moderate-to-severe ARDS who were treated with a strategy involving a high PEEP, there was no significant difference in mortality at 90 days between patients who received an early and continuous cisatracurium infusion and those who were treated with a usual-care approach with lighter sedation targets.]

**Effect of Sustained Inflations vs Intermittent Positive Pressure Ventilation on Bronchopulmonary Dysplasia or Death Among Extremely Preterm Infants: The SAIL Randomized Clinical Trial.**
Kirpalani H. *JAMA* 2019;321(12):1165-1175.
[Conclusions and Relevance: Among extremely preterm infants requiring resuscitation at birth, a ventilation strategy involving 2 sustained inflations, compared with standard intermittent positive pressure ventilation, did not reduce the risk of BPD or death at 36 weeks' postmenstrual age. These findings do not support the use of ventilation with sustained inflations among extremely preterm infants, although early termination of the trial limits definitive conclusions.]

**End-to-end lung cancer screening with three-dimensional deep learning on low-dose chest computed tomography.**
[Lung cancer screening using low-dose computed tomography has been shown to reduce mortality by 20–43%. Existing challenges include inter-grader variability and high false-positive and false-negative rates. Describes a deep learning algorithm that uses a patient’s current and prior computed tomography volumes to predict the risk of lung cancer. This creates an opportunity to optimize the screening process via computer assistance and automation.]

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**Eradication therapy for Burkholderia cepacia complex in people with cystic fibrosis.**
Regan KH. *Cochrane Database of Systematic Reviews* 2019;4:CD009876.
[There remain no objective guidelines for strategies to eradicate Burkholderia cepacia complex in cystic fibrosis lung disease, as these are inherently resistant to the majority of antibiotics and there has been very little research in this area. This review aims to examine the current treatment options for people with cystic fibrosis with acute infection with Burkholderia cepacia complex and to identify an evidence-based strategy that is both safe and effective.]
Frequency of Screening for Weaning From Mechanical Ventilation: Two Contemporaneous Proof-of-Principle Randomized Controlled Trials.
[It is unknown whether more frequent screening of invasively ventilated patients, identifies patients earlier for a spontaneous breathing trial, and shortens the duration of ventilation. We assessed the feasibility of conducting a large trial to evaluate screening frequency in critically ill adults in the North American context.]

**Guideline-Based Clinical Assessment Versus Procalcitonin-Guided Antibiotic Use in Pneumonia: A Pragmatic Randomized Trial.**
Montassier E. *Annals of Emergency Medicine* 2019;--.
[Guideline-based serial clinical assessment did not reduce antibiotic exposure compared with procalcitonin-guided care among ED patients with community-acquired pneumonia. The strategies were similar in terms of duration of antibiotic use and clinical outcomes]

High-Flow Oxygen Therapy After Noninvasive Ventilation Interruption in Patients Recovering From Hypercapnic Acute Respiratory Failure: A Physiological Crossover Trial.
[Assessing gas exchange, diaphragm function, respiratory rate, and patient comfort during high-flow oxygen therapy and standard oxygen at the time of noninvasive ventilation discontinuation.]

**Impact of breathing exercises in subjects with lung cancer undergoing surgical resection: A systematic review and meta-analysis.**
[The results showed that breathing exercises could improve lung function, decrease the incidence of postoperative pulmonary complications (PPCs) and length of hospital stay (LOS) in a sample of lung cancer patients undergoing pulmonary surgery.]
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**Importance of vitamin D in acute and critically ill children with subgroup analyses of sepsis and respiratory tract infections: a systematic review and meta-analysis.**
Cariolou M. *BMJ Open* 2019;9:e027666.
[Our results suggest that 25(OH)D deficiency in acute and critically ill children is high and associated with increased mortality. Small-study effects, reverse causation and other biases may have confounded results. Larger, carefully designed studies in homogeneous populations with confounder adjustment are needed to clarify the association between 25(OH)D levels with mortality and other outcomes.]
*Freely available online*

**Incorporating ex-vivo lung perfusion into the UK adult lung transplant service: an economic evaluation and decision analytic model.**
[An economic evaluation was conducted as part of DEVELOP-UK, a multi-centre study assessing the clinical and cost-effectiveness of the Ex-Vivo Lung Perfusion technique in the United Kingdom.
DEVELOP-UK base-case results suggest that incorporating Ex-Vivo Lung Perfusion into the UK adult lung transplant service is more effective, increasing the number of donor lungs available for transplant, but would not currently be considered cost-effective in the UK using the present NICE threshold.

**Interventions for preventing high altitude illness: Part 3. Miscellaneous and non-pharmacological interventions.**

Molano Franco D. *Cochrane Database of Systematic Reviews* 2019;4:CD013315.

[High altitude illness (HAI) is a term used to describe a group of mainly cerebral and pulmonary syndromes that can occur during travel to elevations above 2500 metres (~ 8200 feet). Acute mountain sickness (AMS), high altitude cerebral oedema (HACE), and high altitude pulmonary oedema (HAPE) are reported as potential medical problems associated with high altitude ascent. We assessed the effectiveness of miscellaneous and non-pharmacological interventions.]

**MVA85A vaccine to enhance BCG for preventing tuberculosis.**

Kashangura R. *Cochrane Database of Systematic Reviews* 2019;4:CD012915.

[Tuberculosis causes more deaths than any other infectious disease globally. Bacillus Calmette-Guérin (BCG) is the only available vaccine, but protection is incomplete and variable. The modified Vaccinia Ankara virus expressing antigen 85A (MVA85A) is a viral vector vaccine produced to prevent tuberculosis.]

**Nintedanib for Systemic Sclerosis-Associated Interstitial Lung Disease.**

Distler O. *New England Journal of Medicine* 2019;:

[Among patients with ILD associated with systemic sclerosis, the annual rate of decline in FVC was lower with nintedanib than with placebo; no clinical benefit of nintedanib was observed for other manifestations of systemic sclerosis. The adverse-event profile of nintedanib observed in this trial was similar to that observed in patients with idiopathic pulmonary fibrosis; gastrointestinal adverse events, including diarrhea, were more common with nintedanib than with placebo. ]

**Non-invasive positive pressure ventilation (CPAP or bilevel NPPV) for cardiogenic pulmonary oedema.**

Berbenetz N. *Cochrane Database of Systematic Reviews* 2019;4:CD005351.

[Non-invasive positive pressure ventilation (NPPV) has been used to treat respiratory distress due to acute cardiogenic pulmonary oedema (ACPE). We performed a systematic review and meta-analysis update on NPPV for adults presenting with ACPE.]

**Preoperative Exercise Rehabilitation in Cardiac and Vascular Interventions.**

Drudi LM. *Journal of Surgical Research* 2019;237:3-11.

[Our qualitative findings suggest that prehabilitation may improve clinical outcomes, physical performance, and health-related quality-of-life measures in patients undergoing cardiac and vascular surgery procedures.]

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**Rapid Detection of Methicillin-Resistant Staphylococcus aureus in BAL: A Pilot Randomized**
Controlled Trial.
[A highly sensitive BAL RDT for MRSA significantly reduced use of vancomycin and linezolid in ventilated patients with suspected pneumonia. Management made on the basis of RDT had no adverse effects, with a trend to lower hospital mortality.]

The Combination of Atomoxetine and Oxybutynin Greatly Reduces Obstructive Sleep Apnea Severity. A Randomized, Placebo-controlled, Double-Blind Crossover Trial.
[A combination of noradrenergic and antimuscarinic agents administered orally before bedtime on 1 night greatly reduced OSA severity. These findings open new possibilities for the pharmacologic treatment of OSA.]

Weight loss and lifestyle interventions for obstructive sleep apnoea in adults: Systematic review and meta-analysis.
[The meta-analyses of 13 randomized controlled trials and 22 uncontrolled before-and-after studies (1420 participants) revealed significant reductions on AHI (d = -0.61 and -0.46, respectively), ODI (d = -0.61 and -0.46) and EDS (d = -0.41 and -0.49). Secondary OSA outcomes were also improved after interventions. However, effectiveness of interventions differed depending on their components, OSA severity, and gender.]

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Guidelines
The following new guidance has recently been published:

Durvalumab for treating locally advanced unresectable non-small-cell lung cancer after platinum-based chemoradiation.
National Institute for Health and Care Excellence (NICE);2019.
https://www.nice.org.uk/guidance/ta578
[1 Recommendations. 1.1 Durvalumab monotherapy is recommended for use within the Cancer Drugs Fund as an option for treating locally advanced unresectable non-small-cell lung cancer (NSCLC) in adults whose tumours express PD-L1 on at least 1% of tumour cells and whose disease has not progressed after platinum-based chemoradiation only if: they have had concurrent platinum-based chemoradiation; the conditions in the managed access agreement are followed.

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Perioperative cardiovascular risk in patients with obstructive sleep apnea.
UpToDate;2019.
[Several small prospective studies in patients with obstructive sleep apnea (OSA) have demonstrated
increased cardiovascular (CV) risk perioperatively. Now in the largest prospective study to date, the increased CV risk was confirmed in 1200 patients undergoing major noncardiac surgery.

Reports
The following report(s) may be of interest:

Sleep apnoea possibly linked to cancer risk in women.
NHS Behind the Headlines; 2019.
[Researchers studied almost 20,000 adults referred to sleep clinics in a European network. They found 2% of people who’d been assessed for OSA from 2007 to 2016 had cancer. They then compared sleep test results for people with and without cancer. They said people with OSA were more likely to have cancer, but when they took account of other potential risk factors, they found the results only remained true for women.]

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