

Editorial

FDA's approval of *Abrysvo*, the *first maternal respiratory syncytial virus (RSV) vaccine*, marks a pivotal moment in maternal and infant care. Administered as a single dose during the third trimester, this vaccine offers a promising shield against severe RSV-related illnesses in infants up to six months old.

The recent *Solanezumab* trial's disappointing outcome underscores the challenges inherent in developing effective treatments for *Alzheimer's disease*. Despite its targeted approach towards monomeric amyloid in individuals with elevated brain amyloid levels, the treatment failed to demonstrate a significant slowing effect on cognitive decline.

However, the implementation of *Pediatric Early Warning Systems (PEWS)* in resource-limited hospitals in Latin America shows its effectiveness in reducing clinical deterioration event mortality among Pediatric patients with cancer.

In nephrology, the use of targeted-release formulation *budesonide (TRF-budesonide)* presents a promising alternative for individuals with immunoglobulin A nephropathy (IgAN) and persistent proteinuria. The observed reduction in proteinuria and slowed decline of kidney function, coupled with manageable adverse effects, position TRF-budesonide as a valuable option for those at high risk of disease progression.

Furthermore, tailoring treatments based on tumour characteristics, as evidenced in the *FOLFOXIRI plus bevacizumab* study for metastatic colorectal cancer with isolated liver metastases, suggests a strategic approach that could lead to improved progression-free survival, particularly for patients with specific genetic profiles. *National Institute for Health and Care Excellence (NICE), UK*, has formulated evidence-based treatment guidelines for certain common conditions. Some of these are discussed:

- *Acute Kidney Injury (AKI)* - This guideline covers preventing, detecting and managing acute kidney injury in children, young people and adults. It aims to improve early recognition and treatment, and reduce the risk of complications.
- *Cirrhosis in patients over 16 years* – This guideline aims to improve how cirrhosis is identified and diagnosed and gives advice on the monitoring, prevention and early management of complications.
- *Spinal metastases and metastatic spinal cord compression* - This guideline covers recognition, referral, investigation and management of spinal metastases and metastatic spinal cord compression (MSCC).
- *Intrapartum care* - This guideline covers the care of women and their babies during labour and immediately after birth. It aims to reduce variation in aspects of care.

An *Artificial Intelligence (AI)*-derived software has been developed to analyze chest X-rays for suspected lung cancer in primary care referrals. Through the *AI-derived algorithms* one can automatically detect lung abnormalities on chest X-ray images. This could help a radiologist or reporting radiographer with review and interpretation of chest X-ray images and support clinical decisions about the need for a CT scan or further investigations. Recent breakthroughs in the application of *Artificial Intelligence (AI)* in healthcare, is the future direction of *AI augmented healthcare systems*.

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I. Drugs

FDA Approves Maternal RSV Vaccine

Source: The JAMA, September 2023

Link: <https://jamanetwork.com/journals/jama/article-abstract/2809131>

The first maternal respiratory syncytial virus (RSV) vaccine, marketed as Abrysvo, was recently greenlit by the US Food and Drug Administration (FDA) to prevent severe illness in infants from birth to 6 months. The approval of the vaccine, which is given as a single injected dose to pregnant people during the third trimester, follows the FDA's May clearance of the same vaccine for those aged 60 years or older.

II. Clinical Research

Treatment Failure and Adverse Events After Amoxicillin-Clavulanate vs Amoxicillin for Pediatric Acute Sinusitis

Source: The JAMA, September 2023

Link: <https://jamanetwork.com/journals/jama/article-abstract/2809688>

In children with acute sinusitis who were treated as outpatients, there was no difference in the risk of treatment failure between those who received amoxicillin-clavulanate compared with amoxicillin, but amoxicillin-clavulanate was associated with a higher risk of gastrointestinal symptoms and yeast infections. These findings may help inform decisions for empirical antibiotic selection in acute sinusitis.

Trial of Solanezumab in Preclinical Alzheimer's Disease

Source: The NEJM, September 2023

Link: <https://www.nejm.org/doi/full/10.1056/NEJMoa2305032>

Solanezumab, which targets monomeric amyloid in persons with elevated brain amyloid levels, did not slow cognitive decline as compared with placebo over a period of 240 weeks in persons with preclinical Alzheimer's disease.

Effect of paediatric early warning systems (PEWS) implementation on clinical deterioration event mortality among children with cancer in resource-limited hospitals in Latin America: a prospective, multicentre cohort study

Source: The Lancet, September 2023

Link: [https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045\(23\)00285-1/fulltext](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(23)00285-1/fulltext)

PEWS implementation was associated with reduced clinical deterioration event mortality in paediatric patients with cancer across 32 resource-limited hospitals in Latin America. These data support the use of PEWS as an effective evidence-based intervention to reduce disparities in global survival for children with cancer.

TRF-budesonide in patients with IgA nephropathy

Source: The Uptodate, September 2023

Link: <https://www.uptodate.com/contents/whats-new-in-nephrology-and-hypertension>
https://www.uptodate.com/contents/iga-nephropathy-treatment-and-prognosis?sectionName=Other%20regimens&topicRef=8352&anchor=H3987571880&source=see_link#H3987571880

Patients with immunoglobulin A nephropathy (IgAN) and persistent proteinuria despite optimized renin-angiotensin system blockade, an oral targeted-release formulation of the glucocorticoid budesonide (TRF-budesonide) reduced proteinuria from baseline and slowed decline of kidney function at nine months compared with placebo. Serious adverse effects were similar between the groups, hypertension, edema, muscle spasms,

and acne were more frequent in the TRF-budesonide group, possibly suggesting a systemic glucocorticoid effect. For patients with IgAN at high risk of disease progression, we continue to suggest initial therapy with oral systemic glucocorticoids plus supportive care; TRF-budesonide is an alternative for those who cannot tolerate or do not wish to take oral systemic glucocorticoids.

FOLFOXIRI plus bevacizumab for metastatic colorectal cancer with isolated liver metastases

Source: The Uptodate, September 2023

Link: <https://www.uptodate.com/contents/whats-new-in-oncology>
https://www.uptodate.com/contents/potentially-resectable-colorectal-cancer-liver-metastases-integration-of-surgery-and-chemotherapy?sectionName=RAS%2FBRAF%20mutant%20disease&topicRef=8361&anchor=H120271866&source=see_link#H120271866

In patients with metastatic colorectal cancer (mCRC) and isolated hepatic metastases, patients with unresectable mCRC limited to the liver and a right-sided RAS/BRAF V600E mutant primary tumor, initial therapy with FOLFOXIRI (infusional fluorouracil [FU], leucovorin [LV], oxaliplatin, and irinotecan) plus bevacizumab for up to six months improved progression-free survival relative to FOLFOX (oxaliplatin plus LV and short-term infusional FU) or FOLFIRI (irinotecan plus LV and short-term infusional FU) plus bevacizumab (11 versus 9 months). Rates of complete local treatment (with either surgery or radiation) of hepatic metastases were also higher (51 versus 37 percent). For patients with RAS/BRAF V600E mutant mCRC and initially unresectable isolated liver disease, we suggest initial systemic therapy with FOLFOXIRI plus bevacizumab.

III. Devices

Artificial intelligence-derived software to analyse chest X-rays for suspected lung cancer in primary care referrals: early value assessment

Source: The NICE, September 2023

Link: <https://www.nice.org.uk/guidance/hte12>

Artificial intelligence (AI)-derived software to analyse chest X-rays for suspected lung cancer in primary care referrals. Software with artificial intelligence (AI)-derived algorithms can be used to automatically detect lung abnormalities on chest X-ray images. This could help a radiologist or reporting radiographer with review and interpretation of chest X-ray images and support clinical decisions about the need for a CT scan or further investigations.

Guided self-help digital cognitive behavioural therapy for children and young people with mild to moderate symptoms of anxiety or low mood: early value assessment

Source: The NICE, September 2023

Link: <https://www.nice.org.uk/guidance/hte3>

Guided self-help digital cognitive behavioural therapy (CBT) provides self-help materials based on the principles of face-to-face CBT in a digital format with regular support and guidance from a healthcare professional. Five guided self-help digital CBT technologies were assessed as an initial treatment option for children and young people with mild to moderate symptoms of anxiety or low mood, while evidence is generated

IV. Treatment Guidelines

Intrapartum care

Source: The NICE, September 2023

Link: <https://www.nice.org.uk/guidance/ng235>

This guideline covers the care of women and their babies during labour and immediately after birth. It focuses on women who give birth between 37 and 42 weeks of pregnancy ('term'). The guideline helps women to make informed choices about where to have their baby and about their care in labour. It also aims to reduce variation in aspects of care.

Acute kidney injury: prevention, detection and management

Source: The NICE, September 2023

Link: <https://www.nice.org.uk/guidance/ng148>

This guideline covers preventing, detecting and managing acute kidney injury in children, young people and adults. It aims to improve assessment and detection by non-specialists, and specifies when people should be referred to specialist services. This will improve early recognition and treatment, and reduce the risk of complications in people with acute kidney injury.

Cryotherapy for chronic rhinitis

Source: The NICE, September 2023

Link: <https://www.nice.org.uk/guidance/ipg771>

Cryotherapy for chronic rhinitis. This involves destroying a nerve in the nose to reduce chronic rhinitis symptoms.

Cirrhosis in over 16s: assessment and management

Source: The NICE, September 2023

Link: <https://www.nice.org.uk/guidance/ng50>

This guideline covers assessing and managing suspected or confirmed cirrhosis in people who are 16 years or older. It aims to improve how cirrhosis is identified and diagnosed, and gives advice on the monitoring, prevention and early management of complications.

Spinal metastases and metastatic spinal cord compression

Source: The NICE, September 2023

Link: <https://www.nice.org.uk/guidance/ng234>

This guideline covers recognition, referral, investigation and management of spinal metastases and metastatic spinal cord compression (MSCC). It is also relevant for direct malignant infiltration of the spine and associated cord compression. It aims to improve early diagnosis and treatment to prevent neurological injury and improve prognosis.

Updated COVID-19 mRNA vaccine recommendations

Source: The Uptodate, September 2023

Link: <https://www.uptodate.com/contents/whats-new-in-drug-therapy>
https://www.uptodate.com/contents/covid-19-issues-related-to-acute-kidney-injury-glomerular-disease-and-hypertension?sectionName=COVID-19%20vaccine-associated%20glomerular%20disease&topicRef=8360&anchor=H444042554&source=see_link#H444042554

The US Food and Drug Administration and Centers for Disease Control and Prevention have updated COVID-19 vaccine authorizations and recommendations. Available COVID-19 vaccines have been updated to target Omicron variant XBB.1.5 (Moderna COVID-19 vaccine 2023-2024 formula, Pfizer COVID-19 vaccine 2023-2024 formula, and Novavax 2023-2024 formula); bivalent vaccines are no longer available. An updated mRNA vaccine is recommended for all individuals aged six months and older. Immunocompetent individuals five years and older should receive one updated vaccine, regardless of prior vaccination history.

V. Healthcare Administration

Longitudinal Patterns in Testosterone Prescribing After US FDA Safety Communication in 2014

Source: The JCI, September 2023

Link: [https://www.jointcommissionjournal.com/article/S1553-7250\(23\)00117-4/fulltext](https://www.jointcommissionjournal.com/article/S1553-7250(23)00117-4/fulltext)

On-label and off-label testosterone therapy declined following the FDA safety communication. Certain physician characteristics were associated with changes in off-label, but not on-label, prescribing.