



Vaccination Strategi e c i e a

In addition to the vaccines included in the standard immunization schedule, influenza vaccines and COVID-19 vaccines have become increasingly important in pediatric medicine. Annual influenza vaccination is recommended for children aged six months and older, as the flu can cause severe complications in young children, including hospitalization and death. Likewise, with the advent of the COVID-19 pandemic, the development of COVID-19 vaccines has become a pivotal strategy in protecting children from severe illness. While COVID-19 generally causes mild symptoms in children, it can still lead to hospitalization and, in rare cases, severe complications, such as Multisystem Inflammatory Syndrome in Children (MIS-C). As more vaccines are developed and approved for pediatric use, they become an essential part of safeguarding children's health [9].

Another challenge in pediatric vaccination is ensuring equitable access to vaccines across diverse populations. In many parts of the world, especially in low-resource settings, access to vaccines can be limited due to factors such as cost, logistical barriers, and lack of healthcare infrastructure. Global vaccination campaigns, such as those spearheaded by GAVI (the Global Alliance for Vaccines and Immunization), aim to reduce these disparities by making vaccines more accessible to underserved populations. Ensuring that vaccines are available to every child, regardless of socioeconomic status or geographic location, is critical to achieving global health goals and reducing childhood mortality from vaccine-preventable diseases [10].

## Conclusion

Vaccination is one of the most effective strategies for preventing a wide range of infectious diseases in pediatric and neonatal medicine. Early immunization, adherence to recommended schedules, combination vaccines, and targeted strategies such as herd immunity are all essential components of successful vaccination programs. While the challenges of vaccine hesitancy, equitable access, and misinformation remain, ongoing education, global initiatives, and strong healthcare systems are key to overcoming these barriers and ensuring that every child receives the life-saving protection they need. By continuing to prioritize vaccination in pediatric care, we can help

prevent unnecessary suffering, reduce the burden of infectious diseases, and protect future generations from preventable illnesses. Vaccination not only benefits individual children but also contributes to broader public health goals, making it a cornerstone of modern medicine and an essential tool in safeguarding the health of the global population.

## References

1. Lee AC, Kozuki N, Blencowe H (2013) Intrapartum-related neonatal encephalopathy incidence and impairment at regional and global levels for 2010 with trends from 1990 *Neonatology* 74: 50-72.
2. Schreglmann M, Ground A. (2020) Systematic review: long-term cognitive and behavioural outcomes of neonatal hypoxic-ischaemic encephalopathy in children without cerebral palsy *J Comput Assist Tomogr* 109: 20-30.
3. Spencer AP, Brooks JC, Masuda N (2021) Motor function and white matter connectivity in children cooled for neonatal encephalopathy *BMC Pediatr* 32: 102872.
4. Azzopardi D, Wyatt JS (1989) Prognosis of newborn infants with hypoxic-ischemic brain injury assessed by phosphorus magnetic resonance spectroscopy *Fetal Pediatr Pathol* 25: 445-451.
5. Lorek A, Takei Y (1994) Delayed ("secondary") cerebral energy failure after acute hypoxia-ischemia in the newborn piglet: continuous 48-h studies by phosphorus magnetic resonance spectroscopy *Am J Obstet Gynecol* 36: 699-706.
6. Fleiss B, Gressens P (2012) Tertiary mechanisms of brain damage: a new hope for treatment of cerebral palsy? *Curr Opin Pediatr* 11: 556-566.
7. Lupton AR, Shankaran S, Tyson JE (2017) Delayed initiation of hypothermia initiated after 6 h of age on death or disability among newborns with hypoxic-ischemic encephalopathy: a randomized clinical trial *J Clin Med* 318: 1550-1560.
8. Wassink G, Davidson JO (2021) Recombinant erythropoietin does not augment hypothermic white matter protection after global cerebral ischaemia in near-term fetal sheep *Am J Transl Res* 3: 172.
9. Donega V, Nijboer CH, Van G Tilborg (2014) Intranasally administered mesenchymal stem cells promote a regenerative niche for repair of neonatal ischemic brain injury 261: 53-64.
10. Donega V, Nijboer CH, Braccioli L (2014) Intranasal administration of human MSC for ischemic brain injury in the mouse: in vitro and in vivo neuroregenerative functions *Exp Ther Med* 9: e112339.