

**DIPHTHERIA IN CHILDREN, ITS TYPES AND BASICS OF CARE**

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***Abstract:*** *Diphtheria is an acute infectious disease that primarily affects children, caused by the bacterium *Corynebacterium diphtheriae*. Despite the availability of effective vaccination measures, diphtheria remains a threat in some regions, especially where immunization coverage is insufficient. The disease is known for its potentially severe complications and, historically, has been associated with significant morbidity and mortality in childhood. Understanding the clinical features, types, and fundamental aspects of caring for children with diphtheria is essential for healthcare professionals, caregivers, and parents alike.*

***Key words:*** *diphtheria children prevention vaccination symptoms diphtheria types care management complications diagnosis treatment isolation*

Diphtheria infection is most often transmitted through respiratory droplets from an infected person, though direct contact with contaminated objects or lesions can also result in transmission. Children are particularly susceptible due to immature immune systems and the close nature of contact within family and educational settings. Once in the body, the bacteria multiply in the mucous membranes, most commonly in the throat and tonsils, and sometimes on the skin. The toxin produced by *Corynebacterium diphtheriae* is responsible for most of the severe systemic effects observed during the course of the disease. Clinically, diphtheria may present in several forms, depending on the primary site of infection. The most common manifestation is pharyngeal diphtheria, also known as respiratory or faecal diphtheria. This form tends to present with a sore throat, low-grade fever, and characteristic thick, grayish-white membrane covering the tonsils, pharynx, or nose. The pseudomembrane adheres firmly to underlying tissues and attempts to remove it may cause bleeding. In more severe cases, the membrane may expand, leading to

airway obstruction, which is a life-threatening complication especially in children. Nasal diphtheria typically follows a more benign course, marked by nasal discharge and only slight systemic symptoms, but nonetheless plays a significant role in spreading the pathogen. Laryngeal diphtheria is notable for its potential to induce severe respiratory distress, stridor, and asphyxia arising from the formation of a membrane in the larynx and trachea. Cutaneous diphtheria, though less common in high-vaccination areas, results in non-healing ulcers on the skin and may serve as a reservoir of infection. In rare instances, other sites like the conjunctiva or genitalia may be involved [1].

Beyond local symptoms, the toxin produced by the diphtheria bacillus can disseminate and damage vital organs, most notably the heart and nervous system. Myocarditis, manifesting as arrhythmias or cardiac failure, is among the most frequent and serious systemic complications of diphtheria. Neurological involvement can take the form of cranial nerve palsies, notably palatal paralysis, limb weakness, and in severe cases, respiratory muscle paralysis. The risk of these complications underscores the seriousness of diphtheria and emphasizes the importance of timely and effective care. The basis of care for children with diphtheria involves several key principles. Prompt diagnosis is critical in minimizing morbidity and containing outbreaks. Diagnosis is usually based on clinical suspicion, confirmed by the presence of the characteristic membrane and detection of diphtheria toxin in cultures from throat swabs. Children diagnosed or suspected of diphtheria require immediate isolation to prevent transmission to others. Strict isolation protocols in a hospital—preferably in an infectious diseases department or intensive care unit—are recommended until two consecutive negative cultures are obtained [2].

Specific treatment targets the neutralization of the diphtheria toxin and eradication of the bacteria. The mainstay of therapy is the early administration of diphtheria antitoxin, preferably within the first 48 hours of illness onset. The antitoxin is administered intravenously or intramuscularly, with the dosage determined by the severity and duration of symptoms. In addition to antitoxin

administration, antibiotics such as penicillin or erythromycin are used to eliminate the bacterial infection and limit further toxin release. Supportive care is an essential component, particularly in managing airway compromise. Children are closely monitored for signs of respiratory obstruction; in cases of severe swelling or membrane formation, intubation or tracheostomy may be required to maintain airway patency. Oxygen therapy, careful hydration, and monitoring of vital signs are routine aspects of care. Nutritional support is important, as diphtheria can make swallowing difficult and eating painful. High-calorie, high-protein, and easily digestible foods, often provided in liquid or semi-solid form, support the child's recovery and overall immune response. Maintaining hydration is equally vital, as fever, decreased oral intake, and increased respiratory rate can lead to rapid fluid loss. Intravenous fluids may be necessary in severe cases or when oral intake is insufficient [3].

Monitoring for complications is an ongoing process. Regular cardiac evaluation—sometimes including electrocardiography and cardiac enzyme measurement—is performed to detect and address cardiac involvement at the earliest. Neurological assessment helps identify early signs of nerve paralysis, allowing for timely intervention and rehabilitation where necessary. Secondary infections, such as pneumonia or otitis media, are managed with appropriate antibiotic therapy and supportive measures. Care for cutaneous lesions, if present, includes meticulous wound hygiene, topical antibiotics, and dressings to minimize secondary infections and spread. Immunization status is always reviewed in children with diphtheria, their family members, and close contacts. Unvaccinated or incompletely vaccinated individuals are given diphtheria toxoid as soon as possible. Close contacts may require antibiotic prophylaxis and monitoring for early symptoms of diphtheria. The importance of immunization cannot be overemphasized; vaccination has led to a dramatic decline in diphtheria incidence worldwide, and lapses in vaccine coverage are associated with resurgences of the disease. Psychological support for both the child and their family is an often-underestimated aspect of care. Hospitalization for a severe infectious disease,

especially in an isolated environment, can be frightening and distressing for children. Providing age-appropriate information, comfort measures, and facilitating communication with family members through visits or digital means may reduce stress and promote recovery. Support for parents and caregivers is equally important, as anxiety about the child's condition and the risk of transmission can be overwhelming [4]

Education on infection prevention is essential for families and communities during and after an episode of diphtheria. Proper hand hygiene, cough etiquette, disinfection of potentially contaminated objects, and prompt reporting of new cases to healthcare authorities are key strategies in controlling the spread of the pathogen. Continued surveillance and public health measures are integral in the fight against diphtheria. Effective reporting systems, outbreak investigations, and public awareness campaigns reinforce the importance of vaccination and early intervention. Collaboration between healthcare providers, schools, and community leaders helps ensure that children continue to be protected from diphtheria and other vaccine-preventable diseases [5]

### **Conclusion:**

In conclusion, diphtheria in children remains a significant but preventable pediatric infectious disease. Its various clinical forms, ranging from mild nasal involvement to life-threatening airway obstruction and systemic toxicity, require prompt recognition and specialized care. The core aspects of management include early diagnosis, immediate isolation, administration of antitoxin and antibiotics, vigilant supportive care, dietary and fluid support, and close monitoring for complications. Vaccination remains the cornerstone of primary prevention, backed by public health initiatives and community education. Comprehensive care for affected children, combining medical, psychological, and educational support, is essential for minimizing both the direct and indirect impacts of diphtheria. Ensuring high immunization coverage, maintaining vigilance among healthcare providers, and empowering families with knowledge about diphtheria prevention and



recognition are fundamental strategies for controlling and ultimately eradicating diphtheria as a health threat for children worldwide.

## REFERENCES:

1. Abdurakhmanov, M. (2019). "Prevention of infectious diseases in children: Combating diphtheria." *Uzbek Journal of Medicine*, 2(3), 56-63.
2. Akramova, D. S. (2021). "Clinical types of diphtheria and principles of pediatric care." *Medical Practice*, 4(2), 30-37.
3. Anorboeva, N. (2018). "Diphtheria in children: Etiology, clinical features and prevention." *Pediatrics Direction*, 1(1), 85-90.
4. Ergashev, K. R. (2020). "Treatment and nursing stages in diphtheria disease." *Innovations in Medicine*, 5(3), 22-29.
5. Hamroyeva, S. (2017). "Diphtheria in children: Diagnosis and nursing challenges." *Modern Medicine*, 6(4), 11-16.
6. Jo'rayev, A. B. (2022). "Diphtheria: Epidemiology and early diagnostic methods." *Infectious Diseases*, 9(1), 44-52.
7. Karimova, M. N. (2019). "Complications of diphtheria in children." *Uzbek Pediatrician*, 4(2), 60-66.
8. Rasulova, Z. I. (2018). "Modern treatment methods of diphtheria." *Health Care*, 7(2), 48-54.