

## Immunization in Diabetes



Compared to non-diabetic population, the diabetes patients are more prone to suffering from various other diseases like Flu (influenza), Pneumococcal Disorder, etc. While a good control of diabetes is of paramount importance in reducing the incidences, some of the diseases which can be prevented by proper vaccinations in the general population are also applicable to the patients with diabetes. Accordingly, many major healthcare and scientific organizations\* have well defined guidelines for vaccination in diabetes.

*\*The Advisory Committee on Immunization Practices (USA), American Diabetes Association (ADA), Centers for Disease Control and Prevention (CDC) etc.*

### **Specific disease & recommendation for immunization:**

**Influenza:** Individuals with diabetes suffer and get hospitalized more often from Influenza and influenza-like illnesses.

- Recommendation: The ADA (American Diabetes Association) recommends influenza vaccination every year for all people more than 6 months of age, including those with diabetes. The vaccination has been shown to reduce the risk of influenza related mortality (by up to 40%) in diabetes patients. The elderly individuals typically have a weakened immune response and accordingly may require a high-dose vaccine (4x the strength of standard flu vaccine), which is approved (USFDA) for elderly people (>65y).

**Pneumococcal Infection:** People with diabetes are at an increased risk of hospitalization for pneumococcal diseases. There are multiple types of pneumococcal vaccines available for different age groups.

- Recommendation:
  - Aged less than 2 years: A 13-valent pneumococcal conjugate vaccine (PCV13).
  - 2 years to 65 years of age: One dose of 23 valent PPSV 23.
  - Above 65 years: PCV 13 one dose & repeat one dose of PPSV 23 with a gap of one year from PCV13 & 5 years from previous dose of PPSV 23.

**Hepatitis B:** The risk of getting infected with acute Hepatitis B infection may be up to double in Diabetic adults compared to non-diabetic adults. Many diabetics may require regular blood glucose monitoring and insulin injections and if done in chronic care setups (like in daycare centers or hospitals) it may increase the risk of the infection. The same holds true for Diabetic patients with End Stage Kidney Disease who require hemodialysis.

- Recommendation: 3-dose of single antigen hepatitis B vaccine at 0, 1, and 6 months. ACIP 2012 Guidelines recommend Hepatitis B vaccination for all unvaccinated adults with diabetes younger than 60 years as soon as feasible after diagnosis. The treating physician may also decide to administer the same to unvaccinated adults with diabetes who are aged  $\geq 60$  years. Patients with Chronic Kidney Disease including those on hemodialysis should also be vaccinated.

**Herpes Zoster:** Individuals with diabetes are more prone to infection than individuals without diabetes.

- Recommendation: Routinely immunization for adults after attaining 60 years of age.

#### **References:**

1. American Diabetic Association (ADA) : Standards of Medical Care in Diabetes—2018 : Diabetes Care Volume 41, Supplement 1, January 2018
2. Canadian Diabetic Association (CDA) : 2018 Clinical Practice Guidelines : Diabetes Canada Clinical Practice Guidelines Expert Committee: Canadian Journal of Diabetes: Can J Diabetes 42 (2018) S142–S144
3. CDC: ACIP : Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2018: MMWR Morb Mortal Wkly Rep. 2018;66(5)

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