Influenza vaccination In Primary Immune Deficiency Patients

Trust ref: E4/2021

1. Introduction and Who Guideline applies to

Influenza vaccination of Children with primary Immunodeficiency (PID) can be complex due to -

Live vaccination has risk for some severely immunodeficient patients with potential to get active infection however it is a more immunogenic vaccine giving better protection to those in whom it is safe, therefore correct selection of the vaccine for these at-risk groups is important.

A) the availability of 2 different types of vaccine:

- Live, nasal vaccine (Fluenz)
- Injectable inactivated (many brands available, varies each year)

B) the fact that the spectrum of immune deficiency is variable and is often only well understood by specialist immunologists.

This guideline covers the recommendation of which vaccine children managed by the PID service at Leicester Children's Hospital should receive, to be used only by clinicians in the PID service. It has been agreed as a regional document by Paediatricians across the Trent Immunology and Allergy Consortium (Sheffield, Nottingham and Leicester).

2. Guideline Standards and Procedures

See table on following page.

Influenza vaccination of Immunodeficient Patients

(please consider other LAIV contraindications)

Families only to receive **inactivated quadrivalent** vaccination. (No vaccination for patient)	**Patient** to receive **inactivated quadrivalent** influenza vaccination	**Patient** to receive **live attenuated** vaccine
Intramuscular or intradermal	*Intramuscular or intradermal*	*Nasal vaccine, Fluenz®.*
❖ Patients with primary Immunodeficiency diagnoses listed in second column, *under 6 months of age* (For whom no influenza vaccine is licensed) ❖ Severe Combined Immunodeficiency (SCID) [$] ❖ Complete (athymic) DiGeorge or CHARGE syndrome[$] ❖ Patients <4 months post Bone Marrow Transplantation[$] [$]Patients in these severely immunosuppressed groups should avoid close contact with children who have received the live influenza vaccination for 7 days following vaccination	Patients over 6 months of age with the following; ❖ Other Severe T cell Immunodeficiencies (e.g. Wiskott Aldrich Syndrome, Combined Immunodeficiency, CD4 count <0.3x10^9/L, impaired T proliferative responses) ❖ CD40 ligand deficiency ❖ DiGeorge Syndrome if CD4 count of <0.3x10^9/L ❖ Patients 4 months - 2 year post Bone Marrow Transplant ❖ Patients >2 year post Bone Marrow Transplant if still on immunosuppression, or CD4 counts <0.3x10^9/L ❖ Ataxia telangiectasia (AT)* – if CD4 count <0.3x10^9/L and/or evidence of poor antibody responses ❖ Rare conditions e.g. Leucocyte Adhesion Defect, HLH on treatment ❖ Patients under 2 years of age listed in column 3	Patients over 2 years of age with the following; • Hypogammaglobulinaemia or antibody deficiency (with or without replacement therapy) • DiGeorge Syndrome if CD4 count of >0.3x10^9/L • Patients with Chronic Granulomatous Disease and other neutrophil disorders • Complement deficiency • Patients 2 year post Bone Marrow Transplantation who are no longer taking any immunosuppression and have a CD4 count >0.3x10^9/L (Patients should receive the influenza vaccine for 5 years post BMT) • Ataxia telangiectasia (AT)* – if CD4 count >0.3x10^9/L and evidence of adequate antibody responses • IRAK4 or MyD88 Deficiency • Other e.g. patients with Downs Syndrome, mannose binding lectin deficiency *The spectrum of immune deficiency in AT is variable. Individualised patient plans may be required.
❖ *These patients MUST NOT receive the live attenuated nasal vaccine, Fluenz®.* **All household contacts should be vaccinated**		• All household contacts should be vaccinated
	Patients can have contact with children who have received the live influenza vaccine and should not be excluded from school during vaccination	

3. Education and Training

None.

4. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Rates of flu vaccination	Departmental Audit	R Radcliffe	3 yearly	Departmental Audit Meeting
Rates of correct vaccine being administered	Departmental Audit	R Radcliffe	3 yearly	Departmental Audit Meeting

5. Supporting References

None

6. Key Words

Influenza, Flu, vaccination, immunisation, Primary Immunodeficeincy, Immunodeficient.

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

CONTACT AND REVIEW DETAILS	
Guideline Lead (Name and Title) **Ruth Radcliffe, Consultant Paediatrician.**	**Executive Lead** **Chief medical officer**
Details of Changes made during review: Clarified the statement that patients in the severely compromised group should avoid close contact with others that have received the live vaccine for 7 days. Added under 6 months, influenza vaccine is not licensed.	