

# Pneumonia wordsearch

Pneumonia is an invasive opportunistic infection which can affect any age group. The very young, the very old and those with chronic disease are most vulnerable and to protect these groups there are two types of pneumonia vaccine which are specific for these groups, although there is some overlap. To make learning more enjoyable, here, Kirsty Armstrong has developed this wordsearch as part of a teaching programme about vaccines and immunisation. As an advanced nurse practitioner (ANP) in out of hours (OOH) and lecturer in primary and urgent care, finding new ways of making immunisation schedules memorable is always a challenge.

C	M	U	I	R	E	T	C	A	B
F	9	C	K	D	L	Q	S	0	2
5	D	O	B	I	U	Y	A	0	3
X	6	N	X	Z	V	H	T	1	X
A	0	J	4	8	L	F	R	N	P
V	L	U	W	D	O	A	I	E	D
O	F	G	%	£	N	&	S	E	I
M	D	A	"	E	G	+	K	L	O
U	C	T	V	G	T	h	@	P	T
E	W	E	L	D	E	R	S	S	L
N	R	B	N	G	R	6	H	O	E
P	S	D	M	I	M	2	K	N	D

## CLUES

1. The pneumonia vaccine used in children
2. The number of strains of pneumonia is greater than this
3. The type of condition that is generally included in risk groups for pneumonia
4. The type of vaccine that is Prevenar 13
5. The pneumonia vaccine used in risk groups and those over 65 years
6. One of the risk groups we repeat pneumovax for after five years
7. The number of strains in Pneumovax
8. The correct route for administration of the pneumonia vaccines
9. Patients who are .. .... should receive this vaccine (2/4)
10. Correct site for administration of this vaccine for those over the age of one year
11. Is *Streptococcus pneumoniae* a virus or bacterium?
12. A small group of patients who may have their pneumonia vaccine repeated after five years
13. A small group of patients who are at occupational risk from pneumonia and therefore need vaccinating
14. To be able to administer this vaccine safely as a health care support worker you need to have one of these — signed by your independent prescriber.

## ANSWERS

1. Prevenar 13
2. >100
3. Long term
4. Conjugate
5. Pneumovax
6. No Spleen

7. 23
8. IM
9. At risk
10. Deltoid
11. Bacterium
12. CKD
13. Welders
14. PSD

*Streptococcus pneumoniae* is an opportunistic bacterium that can cause pneumonia, but also causes conditions such as invasive pneumococcal disease, otitis media, sepsis and meningitis (Public Health England [PHE], 2014).

The strains contained in the vaccine Pneumovax (for risk groups and over 65 year olds) introduced in 2003 account for more than 95% of isolates seen in patients with *S. pneumoniae*. This indicates that the strains are relevant and protective (PHE, 2014).

For children, the addition of Prevenar to the national immunisation

programme in the UK in 2002 has seen the numbers of invasive pneumococcal disease caused by *S. pneumoniae* drop by 34% (PHE, 2018).

The use of vaccines in risk groups is utilised by healthcare systems around the world to reduce morbidity and mortality in these 'at-risk groups' as they need protection, generally due to immunocompromise.

Some of the risk groups that are eligible for Pneumovax are those with chronic kidney disease (CKD), diabetes, immunocompromised through disease or treatment, cochlear implants, and several other long-

term conditions including chronic obstructive pulmonary disease (COPD) and splenic dysfunction.

These vaccines are generally given in general practice, but work is always needed to improve uptake for the risk to be minimised in these groups

Pneumovax is a polysaccharide vaccine suitable for those aged over two in risk groups and is usually given just once in a lifetime (although there are some exceptions — see wordsearch). In younger children it is necessary to give the conjugate vaccine — Prevenar (where the chain of sugars or polysaccharide is attached to a protein to boost immune response). For scheduling, the *Green Book* on pneumonia contains useful tables for dosing in adults and children from six months old (PHE, 2014).

The *Green Book* of infectious disease (PHE, 2014) has a chapter dedicated to pneumonia and vaccines, which is essential reading for immunisers. Additionally, pneumonia is of relevance to those who care for patients with under-lying medical conditions, which is discussed in detail in chapter 7 of the *Green Book*.

Vaccines should be stored, administered and disposed of correctly (Armstrong, 2017), and training with competency testing should be undertaken before immunising.

Resources, such as the website for Public Health England (phe.gov.uk) and E learning for health- eLFH are essentials for those administering vaccines, as is face-to-face training and regular updating. **GPN**

## REFERENCES

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- Public Health England (2014) *Immunisation against Infectious Disease*. Available online: [www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book](http://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book)
- Public Health England (2018) *Pneumococcal: the green book*, chapter 25. Available online: [www.gov.uk/government/publications/pneumococcal-the-green-book-chapter-25](http://www.gov.uk/government/publications/pneumococcal-the-green-book-chapter-25)