

Medications in Nephrotic Syndrome: Rituximab

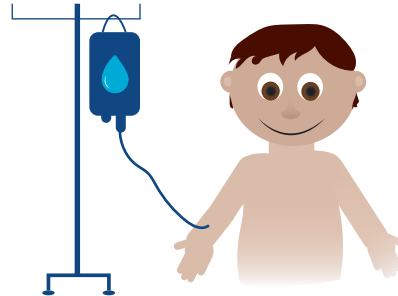
When do we use rituximab?

In children who may not get better with steroids and other immunosuppressive treatments, have repeated relapses, or have side effects to steroids

Using rituximab with another medication (usually mycophenolate) is most effective at prolonging remission

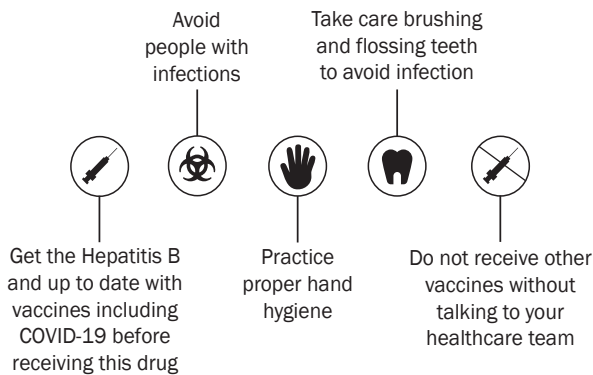
The effects of rituximab usually last 3-6 months

How is rituximab given?



Rituximab is a medication injected into your (your child's) vein in the hospital. Typically, you (your child) will receive two doses, two weeks apart. The medication is given slowly over several hours. Subsequent doses will be decided by the healthcare team.

Precautions on rituximab

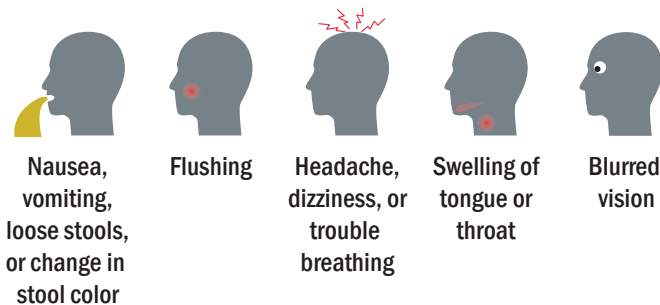


YOU WILL GET OTHER MEDICINES TO PREVENT REACTIONS

Acetaminophen (Tylenol®), cetirizine (Zyrtec®), and steroids will be given before you (your child) receive(s) rituximab to help prevent allergic reactions.

Side effects

You (your child) may experience these symptoms during the time the drug is being given, or shortly after:

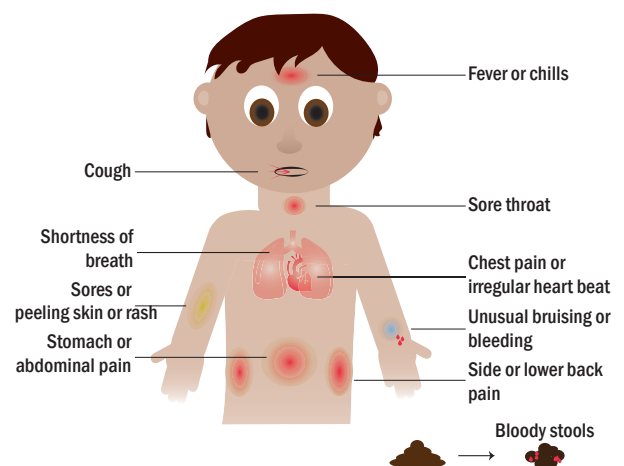


You (your child) may experience these side effects within 6 months of ritux infusion:

Low levels of antibodies (IgG)* in blood (~51%) - maybe associated with infections	Mild viral respiratory, oral infections and chickenpox (~5%)	Low levels of white blood cells (neutrophils)* in blood (~4%)
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*These blood levels are regularly monitored by your (your child's) care team

Seek immediate medical care if you have (your child has) any of these side effects:



Most side effects are mild, including after repeated doses. The following side effects are very rare. They include neurological, gastrointestinal, cardiovascular, respiratory disease, severe infections and cancers.

Rituximab: Additional Resources

Publications from the INSIGHT Study

INSIGHT Publication: *Ethnic Differences in Incidence and Outcomes of Childhood Nephrotic Syndrome*

<http://cjasn.asnjournals.org/content/11/10/1760.short>

INSIGHT Publication: *Both the rituximab dose and maintenance immunosuppression in steroid-dependent/frequently-relapsing nephrotic syndrome have important effects on outcomes*

[https://www.kidney-international.org/article/S0085-2538\(19\)31047-6/fulltext](https://www.kidney-international.org/article/S0085-2538(19)31047-6/fulltext)

INSIGHT Publication: *Long-Term Efficacy and Safety of Repeated Rituximab to Maintain Remission in Idiopathic Childhood Nephrotic Syndrome: An International Study*

<https://jasn.asnjournals.org/content/33/6/1193.short>

How rituximab works

NephCure Kidney International: *How does rituximab work?*

<https://nephcure.org/livingwithkidneydisease/treatment-options/rituximab/>

The Royal Children's Hospital Melbourne: *Are there any other treatments for nephrotic syndrome?*

http://www.rch.org.au/uploadedFiles/Main/Content/clinical-guide/130561%20SCOTT%20Nephrotic%20Syndrome%20booklet%20A5_LR.pdf

How rituximab is administered

AboutKidsHealth (SickKids): *How will your child get rituximab?*

<http://www.aboutkidshealth.ca/En/HealthAZ/Drugs/Pages/Rituximab.aspx>

NephCure Kidney International: *How should I take rituximab? How is rituximab administered?*

<https://nephcure.org/livingwithkidneydisease/treatment-options/rituximab/>

Side effects

NephCure Kidney International: *What are the possible side effects of rituximab?*

<https://nephcure.org/livingwithkidneydisease/treatment-options/rituximab/>

AboutKidsHealth (SickKids): *What are the possible side effects of rituximab?*

<http://www.aboutkidshealth.ca/En/HealthAZ/Drugs/Pages/Rituximab.aspx>

National Institute for Health and Care Excellence: *What are the possible harms or side effects?*

<https://www.nice.org.uk/advice/es1/ifp/chapter/Summary-of-possible-benefits-and-harms>

Pediatric Nephrology: *Rituximab in children with steroid sensitive nephrotic syndrome: in quest of the optimal regimen*

<https://link.springer.com/article/10.1007/s00467-020-04609-0>