

# Medications in Nephrotic Syndrome: Tacrolimus

## When do we use tacrolimus?

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

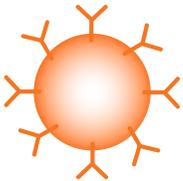


## Tacrolimus may reduce relapses



**44%** of children will no longer relapse after taking tacrolimus

## Tacrolimus works by suppressing the immune system



The immune system normally protects the body, by killing unwanted viruses and bacteria. In nephrotic syndrome, the immune system is overactive. This leads to kidney damage.

It may take several weeks for you to see a difference in your (your child's) condition.

## How do I (does my child) take tacrolimus?

For as long as the team tells you, even if you (your child) feel(s) better

At the same time of day

At least 12 hours apart

Do not change dose unless advised

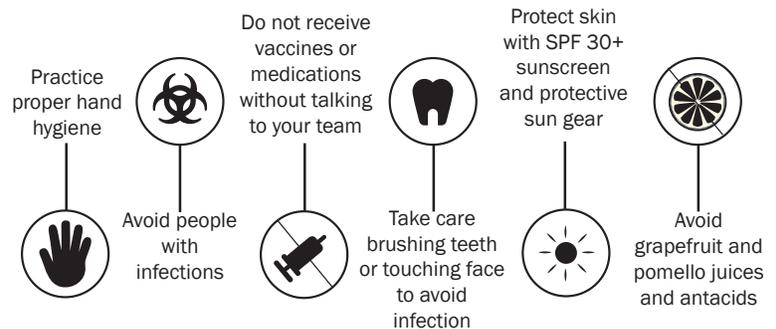
## Precautions on tacrolimus



If you (your child) throw(s) up within 30 min. → repeat dose once  
30 min. to 1 hour → take half dose  
> 1 hour → do not repeat



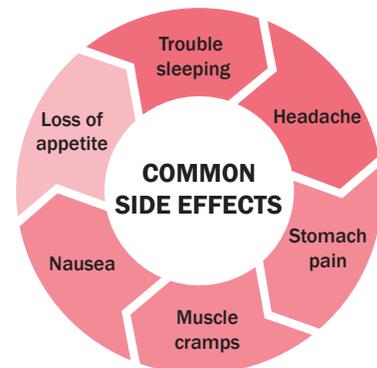
- If you (your child) miss(es) a dose, take it as soon as you remember  
- If it is time for the next dose, skip the missed dose  
- Never take two doses to make up for a missed dose



## CHECK BLOOD LEVELS REGULARLY

Decreased kidney function may occur over time if blood levels of tacrolimus are too high.

## Side effects



## Seek medical care if you have (your child has):

FEVER  
SHAKING/TREMBLING

DIARRHEA  
VOMITING

The following side effects are rare at the doses given for nephrotic syndrome. They include risk of diabetes, high blood pressure, and skin cancer.

# Tacrolimus: Additional Resources

## Incidence and outcomes of nephrotic syndrome

**INSIGHT Publication: *Ethnic Differences in Incidence and Outcomes of Childhood Nephrotic Syndrome***  
<http://cjasn.asnjournals.org/content/11/10/1760.short>

## How tacrolimus works

**National Institute of Diabetes & Digestive & Kidney Diseases (NIDDK): *How is nephrotic syndrome treated?***  
<https://www.niddk.nih.gov/health-information/kidney-disease/children/childhood-nephrotic-syndrome>

**The Kidney Foundation of Canada: *Treatment for childhood nephrotic syndrome***  
<https://www.kidney.ca/childhood-nephrotic-syndrome>

**The Kidney Foundation of Canada: *Childhood nephrotic syndrome - Other treatment***  
<https://www.kidney.ca/document.doc?id=330>

**Mayo Clinic: *Nephrotic syndrome - Treatment: Immune system-suppressing medications***  
<https://www.mayoclinic.org/diseases-conditions/nephrotic-syndrome/diagnosis-treatment/drc-20375613>

## How to give tacrolimus

**AboutKidsHealth (SickKids): *How should you give your child tacrolimus?***  
<http://www.aboutkidshealth.ca/En/HealthAZ/Drugs/Pages/Tacrolimus-For-Nephrotic-Syndrome.aspx>

**NephCure Kidney International: *How should I take tacrolimus? How is tacrolimus administered?***  
<https://nephcure.org/livingwithkidneydisease/treatment-options/tacrolimus-prograf/>