



Heart, Lung, Kidney, and Immunologic Disease  
Victory Junction Medical Staff and Volunteer Training



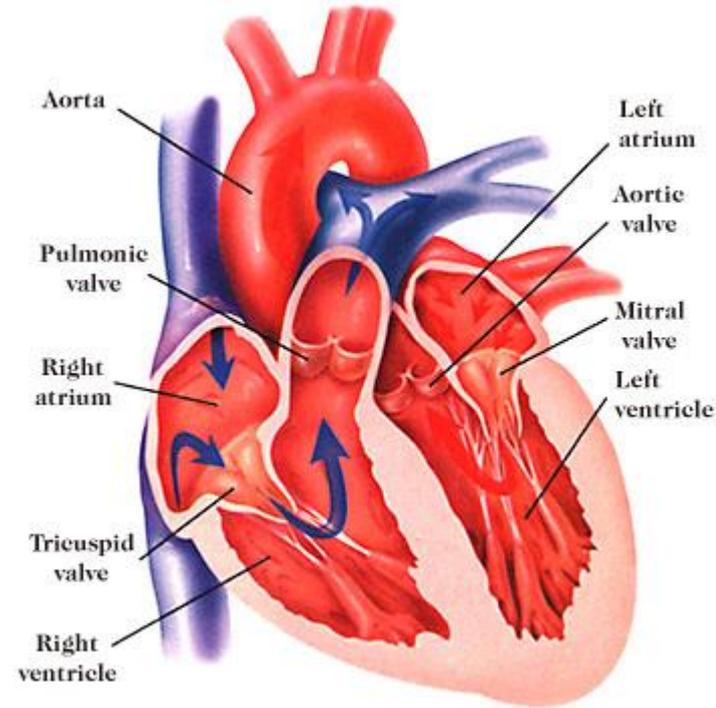
# Heart Disease



# Heart Disease

The heart muscle:

- Is about the size of a person's fist
- Contracts about 100,000 times each day
- Right side receives deoxygenated blood from the body and pumps it to the lungs
- Left side receives oxygenated blood back from the lungs and pumps it through the aorta out to the body

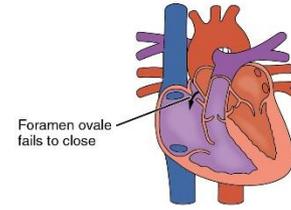


# Heart Disease

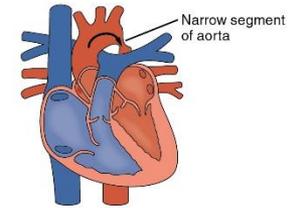
Nearly all cardiac diagnoses in children are classified as **congenital heart defects (CHD)**.

## Congenital heart defects

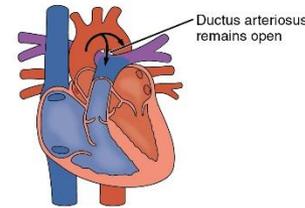
- A change in the heart's structure present at birth
- The most common type of birth defect
- Affect 8 in 1,000 babies
- Affect more than 35,000 babies born in the U.S. each year
- Includes a range from “simple” defects, such as ASD, VSD, and PDA to the most complex defect tetralogy of Fallot



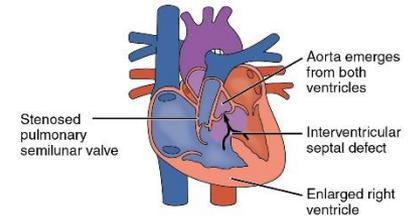
(a) Patent foramen ovale



(b) Coarctation of the aorta



(c) Patent ductus arteriosus



(d) Tetralogy of Fallot

Babies with genetic disorders are more likely to have CHD. Maternal smoking during pregnancy also increases the risk of CHD.

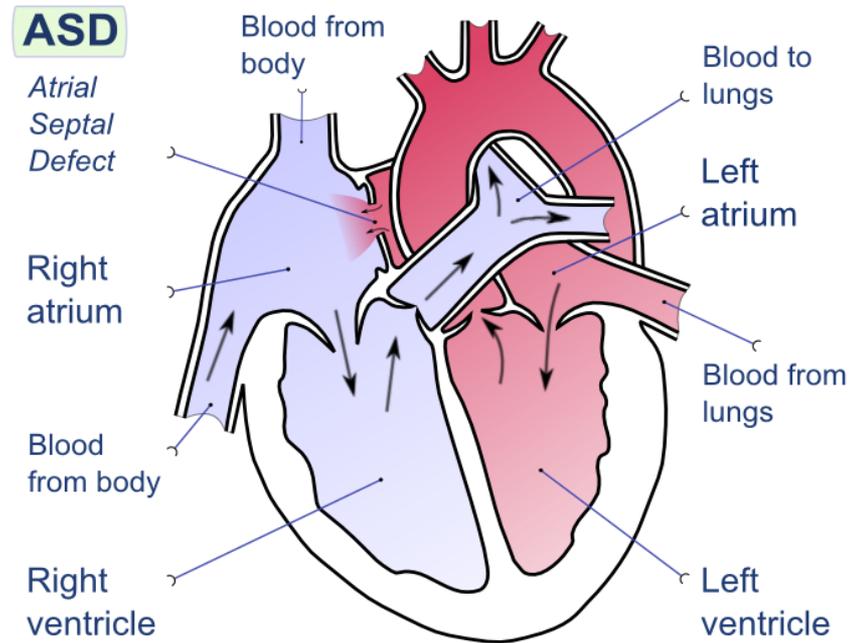
Half of all babies with Down syndrome (trisomy 21) have congenital heart defects.

# Heart Disease – Types of CHD

“Holes in the heart” can occur in the septum, which separates the right and left sides of the heart

## Atrial Septal Defect (ASD)

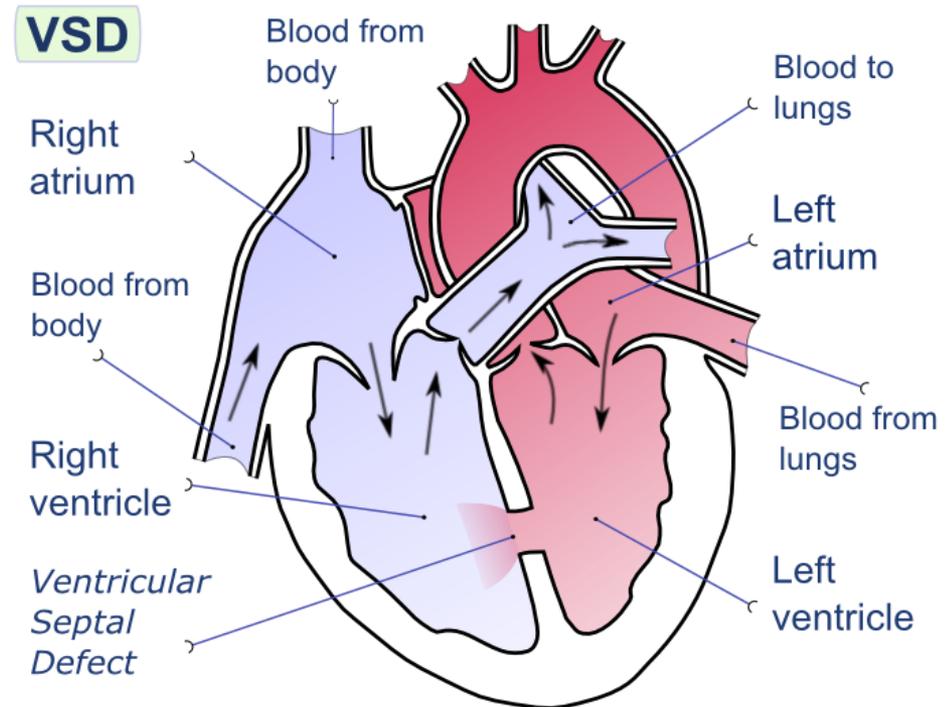
- Opening between the right and left atrium, allowing blood to leak from one side to the other
- Small ASDs often do not affect the heart’s function, and close as the heart grows
- Medium or Large ASDs may need to be closed with a catheter or open heart surgery
- About half of all ASDs close on their own



# Heart Disease – Types of CHD

## Ventricular Septal Defect (VSD)

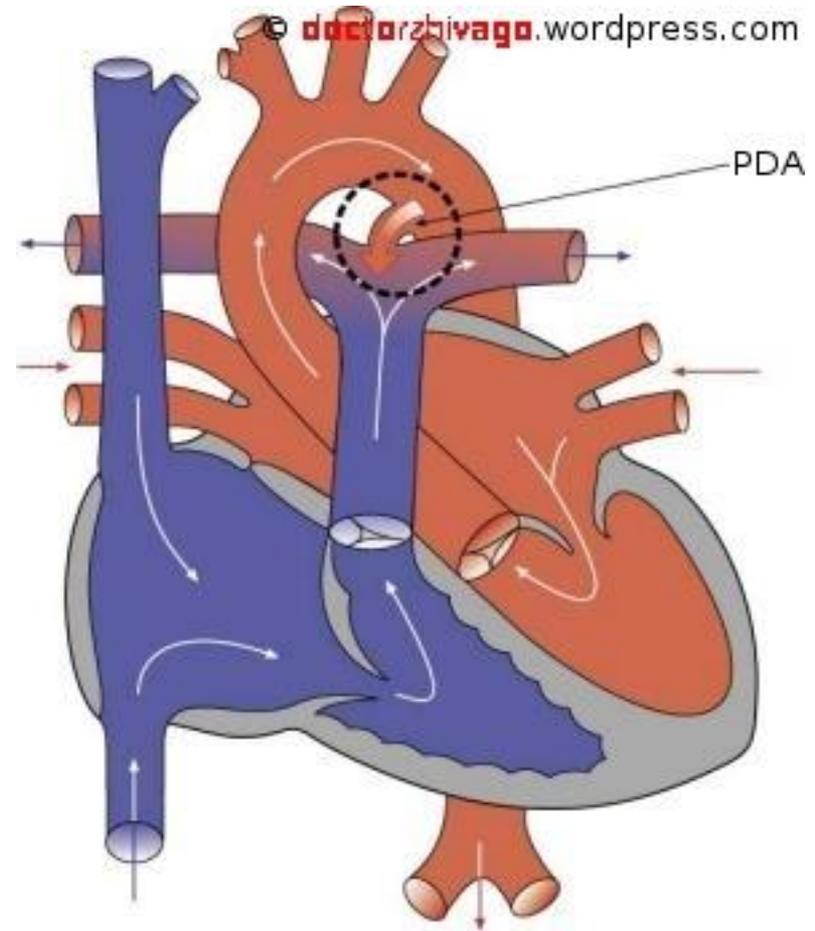
- Opening between the right and left ventricles, allowing oxygenated blood in the left ventricle to leak into the right ventricle instead of continuing into circulation
- This defect increases the workload for the left ventricle, and increases the pressure in the right ventricle and lungs. It also leads to poor growth and heart failure if left unrepaired.
- Small VSDs often do not require repair and close on their own, but medium and large VSDs require repair with open heart surgery



# Heart Disease – Types of CHD

## Patent Ductus Arteriosis (PDA)

- Fairly common type of CHD, allowing blood to flow between the pulmonary artery (low in oxygen) and aorta (rich in oxygen)
- Ductus Arteriosis – blood vessel that connects the pulmonary artery and aorta, and is important for fetal blood circulation. This normally closes in the first minutes to days after birth. If it remains open, the child has PDA.
- This creates increased pressure in the pulmonary arteries and strains the heart.
- Treated with medication, catheter procedures, or surgery.



Symptoms of PDA include poor feeding, shortness of breath, and tiring quickly.

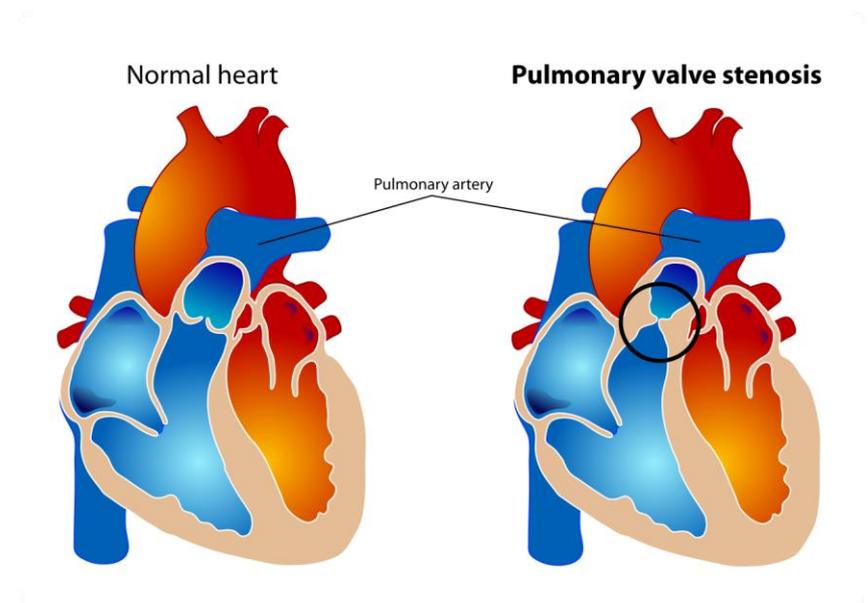
A murmur is often heard in a child with PDA.



# Heart Disease – Types of CHD

## Valve defects

- Stenosis = a valve doesn't open completely, due to stiffening or thickening, and it is harder for blood to flow through
- Regurgitation = a valve doesn't close tightly and blood leaks back in the opposite direction of normal flow
- Atresia = a valve formed without a hole for blood to flow through
- Most common valve defect is ***pulmonary valve stenosis***
- Pulmonary valve stenosis causes the right ventricle to work harder to pump blood to the lungs
- Severe pulmonary valve stenosis is treated with a catheter procedure



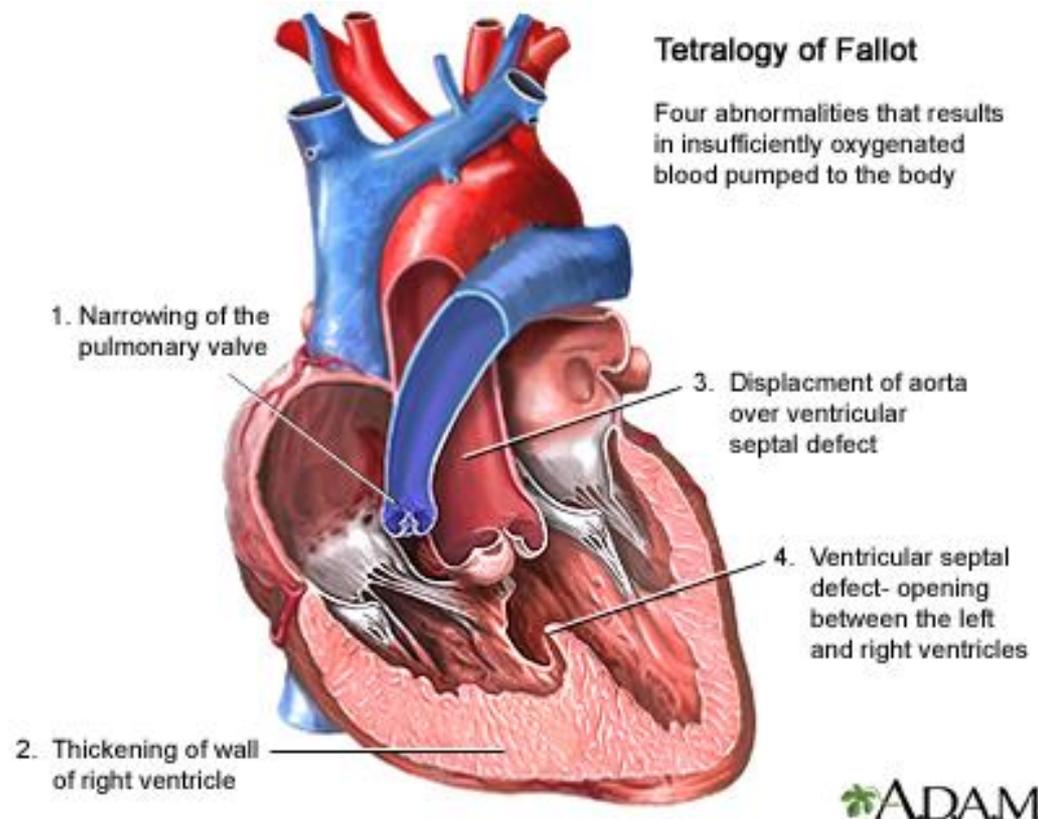
Some babies are born with pulmonary valve stenosis and ASD or PDA. This causes cyanosis, or a bluish appearance due to poorly oxygenated blood.



# Heart Disease – Types of CHD

## Tetralogy of Fallot

- The most complex type of CHD, a combination of 4 defects
  - **Pulmonary valve stenosis**
  - **Large VSD**
  - **Overriding aorta** (aorta located between left and right ventricle, when combined with VSD allows poorly oxygenated blood to flow through the aorta instead of the pulmonary artery)
  - **Right ventricular hypertrophy** (thickening of the muscle due to increased workload)
- Treated in infancy with open heart surgery, and requires lifelong care by a specialist



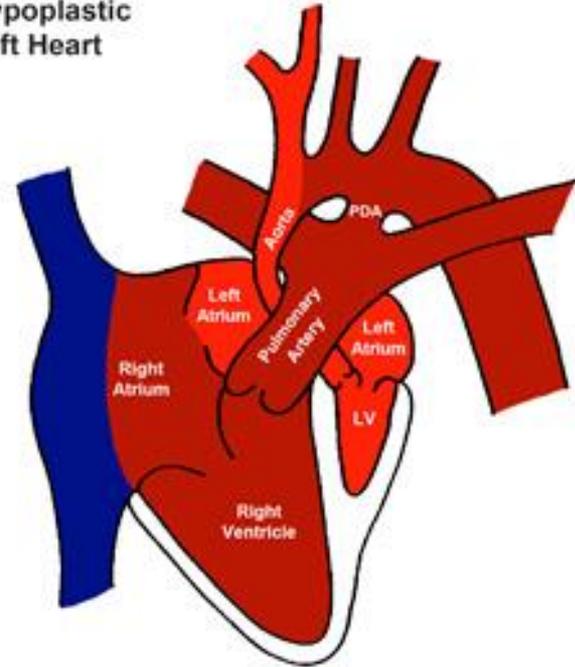
Prior to repair, infants with Tetralogy of Fallot have severe episodes of cyanosis.

# Heart Disease – Types of CHD

## Hypoplastic left heart syndrome (HLHS)

- The heart does not form correctly, with several defects:
  - Left ventricle is too small
  - Mitral valve is not formed or very small
  - Aortic valve is not formed or very small
  - Ascending aorta is too small
  - Often have ASD
- The left side of the heart is unable to pump blood to the body
- The right side of the heart pumps blood to both the lungs and the body
- Once the patent ductus arteriosus and patent foramen ovale have closed, it is very hard to circulate oxygenated blood
- Treated with 3 surgeries to restore blood flow in stages
  - Norwood – first 2 weeks of the baby's life
  - Glenn – age 4-6 months
  - Fontan – age 18 months – 3 years

Hypoplastic Left Heart



# Heart Disease – Complications of CHD

As a child with congenital heart disease grows, they may have problems with:

- **Poor feeding and growth.**
  - Because heart defects cause the heart to work harder, children can become tired quickly when eating and stop before taking in enough calories to grow well.
  - Due to poor oxygenation and increased work on the heart, children may not meet typical growth and development milestones.
  - This often improves after surgery or treatment for CHD.
- **Physical activity**
  - Children with CHD often have decreased stamina for physical activity.
  - Some children may be required to limit physical activity to reduce the strain on their heart.
- **Increased risk for infective endocarditis**
  - Children with CHD have slightly increased risk for this severe infection of the inner lining of the heart.
  - It is important that these children brush their teeth regularly and practice good oral hygiene.
  - Antibiotics to prevent infection prior to dental work or surgery may be prescribed.



# Heart Disease

## Marfan Syndrome

- Marfan syndrome is a genetic disorder that affects connective tissues, and can have severe cardiac complications
- One of the primary features of Marfan syndrome is weakening and stretching of the aorta, which can lead to an aneurysm or dissection (sudden tearing) in the aorta wall
- People with Marfan syndrome may also have mitral valve prolapse or aortic valve regurgitation, causing shortness of breath, fatigue, and irregular heart beat
- Other complications of Marfan syndrome include vision problems (i.e. dislocated lenses, nearsightedness, cataracts, glaucoma) and scoliosis. People with Marfan syndrome are typically very tall and thin, with long limbs and elongated fingers and toes.
- Marfan syndrome can usually be treated with medications and limitation of extreme physical activity. Some people have surgery to address their vision challenges or valve problems.



# Heart Disease

**VACTERL syndrome** is a group of birth defects that have been known to occur together.

Babies diagnosed with VACTERL or VATER syndrome typically have at least 3 of these anomalies.

V – vertebrae (bones formed incorrectly as small vertebrae or hemivertebrae)

A – imperforate anus or anal atresia

C – cardiac defects (most often VSD, ASD, or tetralogy of Fallot)

TE – tracheoesophageal fistula

R – renal anomalies

L – limb anomalies (extra digits, fusion of digits, forearm anomalies)



# Heart Disease – Common medications

	Common names	Why?	Side effects
ACE Inhibitors	<ul style="list-style-type: none"> <li>• Lisinopril</li> <li>• Enalapril</li> <li>• Captopril</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease blood pressure, vasodilate</li> </ul>	<ul style="list-style-type: none"> <li>• Headache</li> <li>• Dizziness</li> <li>• Cough</li> <li>• Chest pain</li> </ul>
Diuretics	<ul style="list-style-type: none"> <li>• Furosemide (Lasix)</li> <li>• Chlorothiazide (Diuril)</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease edema and volume overload</li> </ul>	<ul style="list-style-type: none"> <li>• Increase urine volume</li> <li>• Headache</li> <li>• Dizziness</li> <li>• Dehydration</li> <li>• Electrolyte wasting</li> </ul>
Anticoagulants	<ul style="list-style-type: none"> <li>• Aspirin</li> </ul>	<ul style="list-style-type: none"> <li>• Prevent blood clots</li> <li>• Decrease inflammation</li> </ul>	<ul style="list-style-type: none"> <li>• Upset stomach (risk of stomach bleeding)</li> <li>• Nausea</li> </ul>
Beta-blockers	<ul style="list-style-type: none"> <li>• Propranolol</li> <li>• Atenolol</li> <li>• Metoprolol</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease heart rate and blood pressure</li> </ul>	<ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Headache</li> <li>• Cold hands</li> <li>• GI distress</li> </ul>
Calcium channel blockers	<ul style="list-style-type: none"> <li>• Amlodipine</li> <li>• Nifedipine</li> <li>• Verapamil</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease heart rate and blood pressure</li> <li>• Vasodilate</li> </ul>	<ul style="list-style-type: none"> <li>• Headache</li> <li>• Dizziness</li> <li>• Fatigue</li> <li>• GI distress</li> <li>• NO GRAPEFRUIT!</li> </ul>



# Heart Disease – Camper considerations

Help the counselors keep these kids safe and healthy at camp by:

- Allowing for rest and take frequent breaks! Campers may have decreased stamina and fatigue quickly. Avoid overexertion.
- Staying cool! Again, to avoid overexertion, try to stay in the shade or air conditioning when possible.
- Staying hydrated!
- Some campers may use oxygen. Make sure the counselors understand oxygen safety and when to call the medical team.



# Lung Disease

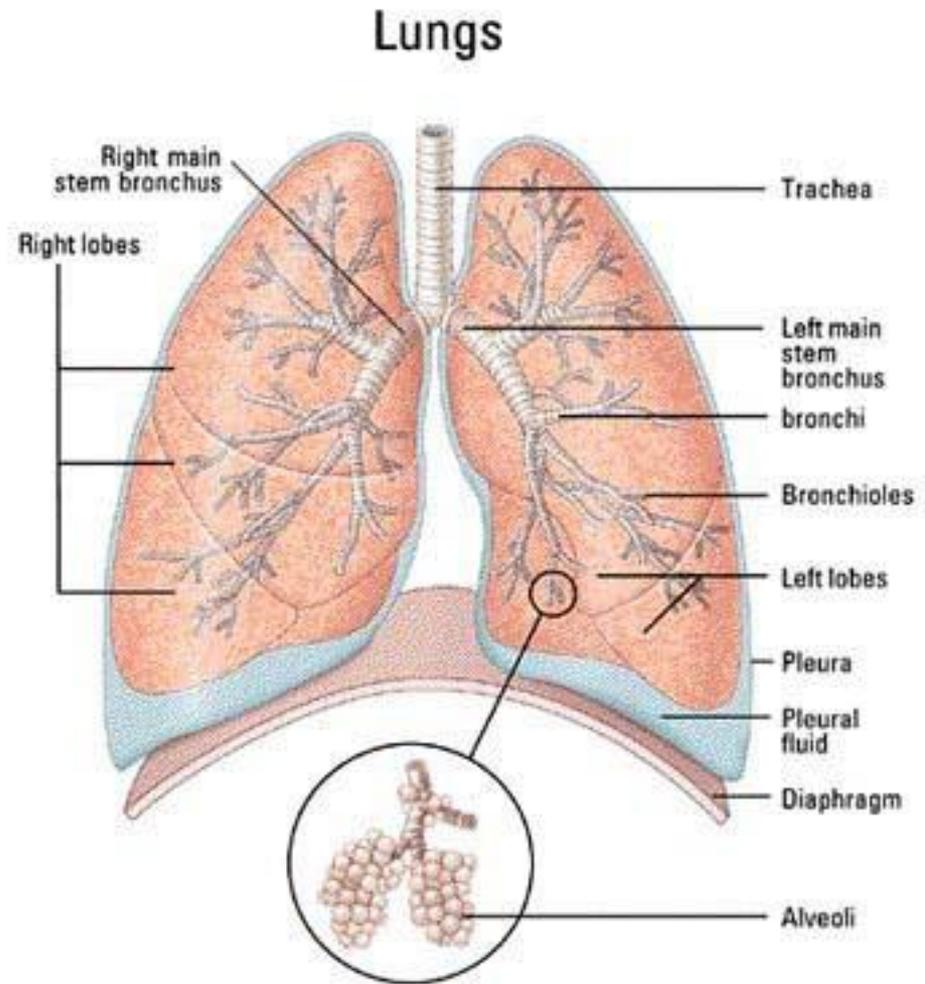


# Lung Disease

The primary function of the lungs is to take in oxygen and deliver it to the blood cells, and then remove and expel carbon dioxide.

This requires the airway (trachea, bronchi, and bronchioles) and lung tissue (including alveoli) to work together.

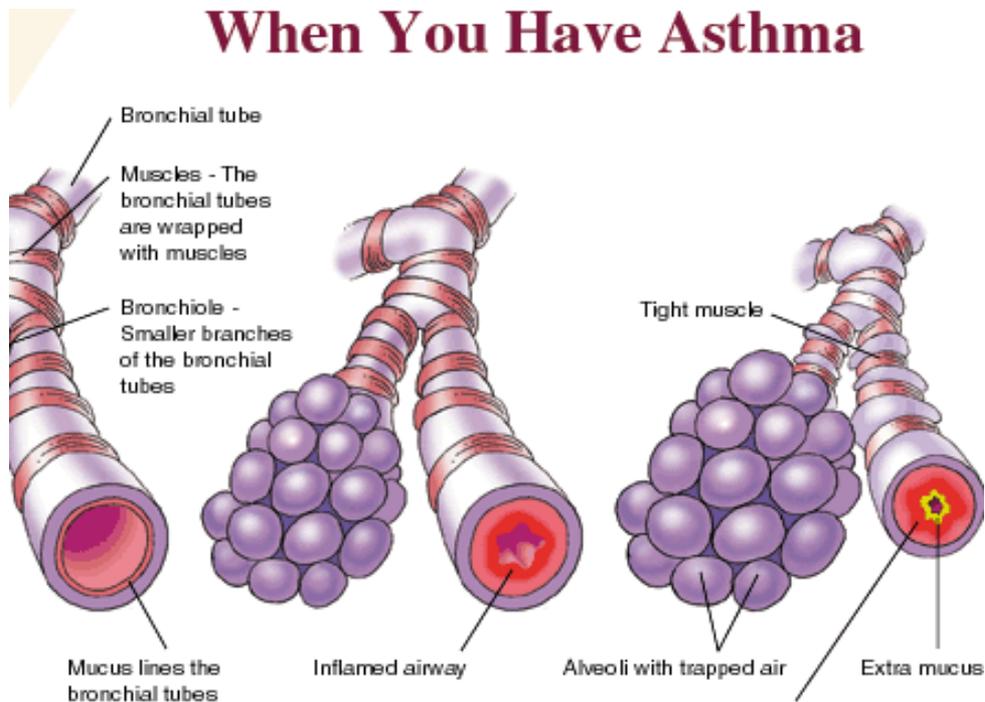
Some respiratory diseases affect the airways and the ability to take in and expel air properly. Others affect the lung tissues and exchange of gases.



# Lung Disease

**Asthma** is a common diagnosis among campers with lung disease, and affects the airways.

Asthma is a chronic disease in which the airways become inflamed, narrow, and increase mucus production.



# Lung Disease

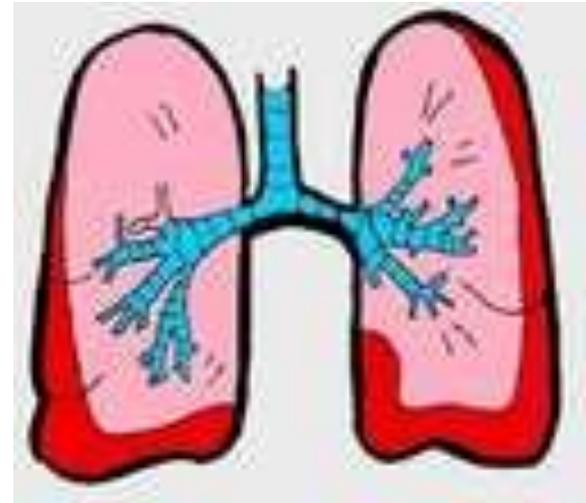
Asthma affect children and adults, but most often starts in childhood.

Nearly 22 million people have asthma, of which **about 6 million are children.**

Signs and symptoms of Asthma include:

- Coughing, often worse at night
  - Wheezing
  - Shortness of breath
  - Chest tightness

These symptoms are caused by the inflammation and narrowing of the airways, which make air movement in and out of the lungs difficult.



Asthma is diagnosed by a lung function test, evaluation of respiratory symptoms, and a physical exam.

# Lung Disease

Asthma has no cure, but symptoms can usually be managed well. Asthma exacerbations can be prevented by avoiding triggers and treated with appropriate interventions.

Common triggers include:

- Allergens (dust, pollen, mold, animal fur, etc)
- Irritants (smoke, chemical fumes, pollution, hairspray)
- Viral upper respiratory infections
- Physical activity

Most, but not all, people with asthma also have allergies.

While heavy exercise can trigger asthma symptoms, avoiding physical activity is not recommended.



# Lung Disease

Long-acting medications for asthma control the inflammatory process in the airways.

Type	Common names	Side effects
Inhaled corticosteroids  <div data-bbox="73 482 581 611" style="border: 1px solid black; background-color: #f4a460; padding: 5px; display: inline-block;">This is the preferred treatment for children with asthma.</div>	<ul style="list-style-type: none"><li>• Budesonide (Pulmicort)</li><li>• Fluticasone (Flovent)</li><li>• Beclomethasone (Qvar)</li></ul>	<ul style="list-style-type: none"><li>• Increased heart rate</li><li>• Puffy face</li><li>• Rash</li><li>• Wheezing</li><li>• Increased risk of thrush infection</li><li>• Throat irritation</li><li>• Headache</li></ul>
Combination inhaled corticosteroid + beta-2 antagonist	<ul style="list-style-type: none"><li>• fluticasone propionate and salmeterol xinafoate (Advair diskus)</li><li>• budesonide and formoterol fumarate (Symbicort)</li></ul>	<ul style="list-style-type: none"><li>• Increased heart rate</li><li>• Headache</li><li>• Shakiness/nervousness</li><li>• Insomnia</li><li>• Hoarseness</li><li>• Coughing</li><li>• Nausea and vomiting</li></ul>
Leukotriene modifiers	<ul style="list-style-type: none"><li>• Montelukast sodium (Singulair)</li><li>• Zafirlukast (Accolate)</li></ul>	<ul style="list-style-type: none"><li>• Headache</li><li>• Insomnia</li><li>• Nausea and vomiting</li><li>• Increased heart rate</li></ul>
Anticholinergic	<ul style="list-style-type: none"><li>• Atrovent</li></ul>	<ul style="list-style-type: none"><li>• Dry mouth</li><li>• Blurred vision</li><li>• May increase wheezing in some</li></ul>



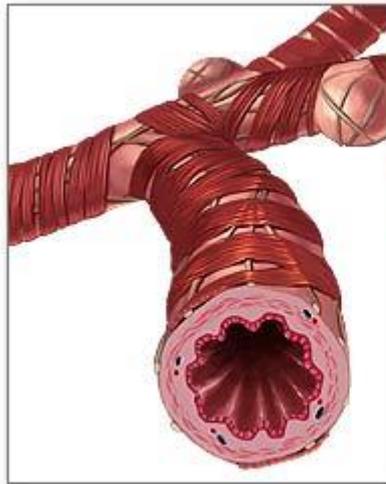
# Lung Disease

During an asthma exacerbation, short-acting medications help to relieve the swelling in the airways.

Beta-2 antagonist (short-acting)	Albuterol <ul style="list-style-type: none"><li>• ProAir</li><li>• Ventolin</li><li>• Proventil</li></ul>	<ul style="list-style-type: none"><li>• Anxiety</li><li>• Increased heart rate</li><li>• Insomnia</li><li>• Headache</li></ul>



Normal bronchiole

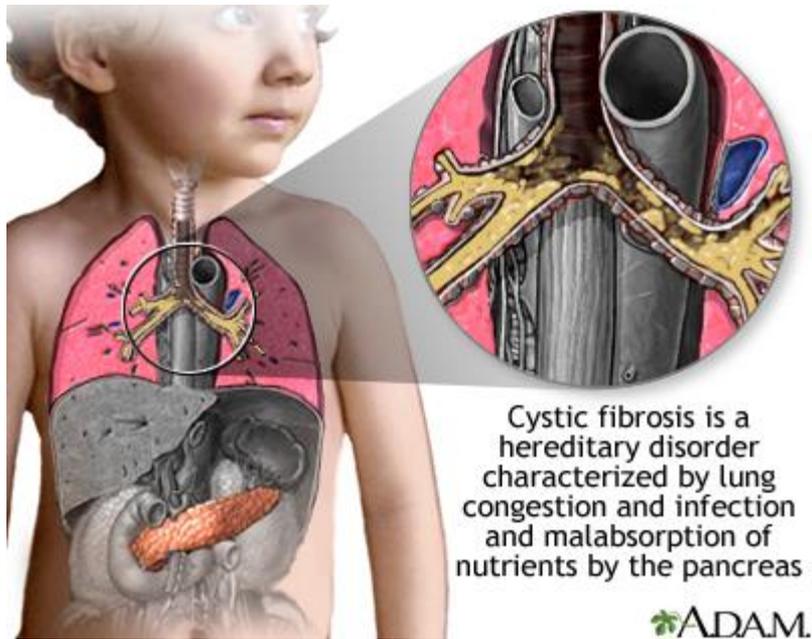


Asthmatic bronchiole



# Lung Disease

Cystic Fibrosis is another lung disease diagnosis among campers. For infection prevention, only one camper with CF may attend Victory Junction each session.



- Cystic fibrosis is a chronic disease, inherited in an autosomal recessive pattern, that affects the secretory glands.
- 75% of people with cystic fibrosis are diagnosed before age 2
- Approximately 1,000 people are diagnosed with CF each year in the U.S.

Due to developments in treating CF, mean predicted survival age is 40 years. In the 1950s, children rarely lived to age 6.

# Lung Disease

## Complications of Cystic Fibrosis

### Lung complications

- Infection (recurrent pneumonia)
- Thick mucus preventing adequate gas exchange
- Fatigue
- Sinus infections and nasal polyps
- Hemoptysis
- Chronic respiratory failure

### GI complications

- Constipation
- Malabsorption
- Recurrent pancreatitis
- Nausea and decreased appetite

### General complications

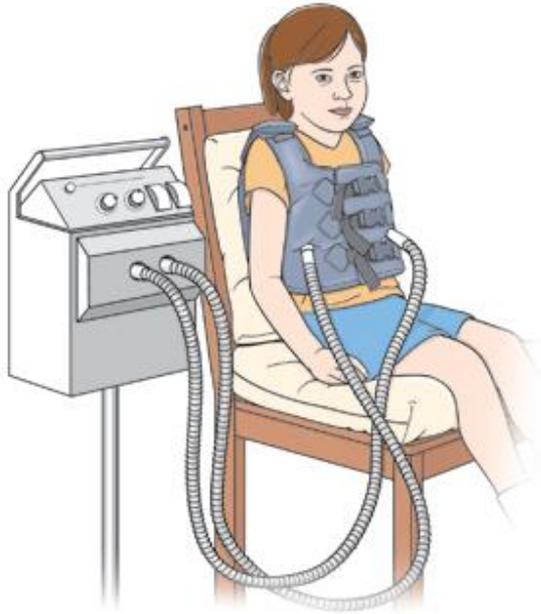
- Delayed growth
- Poor weight gain in childhood
- Salty tasting skin
- Clubbed fingers
- Diabetes
- Infertility

Respiratory complications are the most common cause of death in people with CF.



# Lung Disease

Treatments for CF typically include:



## Airway Clearance

Chest physiotherapy loosens mucus and congestion.



## Inhaled medications

Medications open the airways, loosen and thin mucus.



## Pancreatic Enzymes

Taken with food to improve digestion and absorption of fat, protein, and vitamins A,D, E, and K.



# Lung Disease

Help the counselors keep these kids safe and healthy at camp by:

- Avoiding overexertion! Especially in the summer heat, take frequent breaks and cool off.
- Trying to avoid triggers for asthma – be aware of hairspray in the Fab Shop, and dust and animal dander in the barn.
- Campers will keep their rescue inhaler with them. Counselors will often carry them in individually labeled bags attached with a carabiner to their backpacks.
- Staying hydrated! This can help keep secretions from becoming thicker.
- Understanding that cystic fibrosis, asthma, and long term use of corticosteroids for asthma may cause delayed growth and development in some children.



# Kidney Disease



# Kidney Disease

The kidneys filter about 120-150 quarts of blood each day, removing extra fluid and waste products to be excreted as urine.

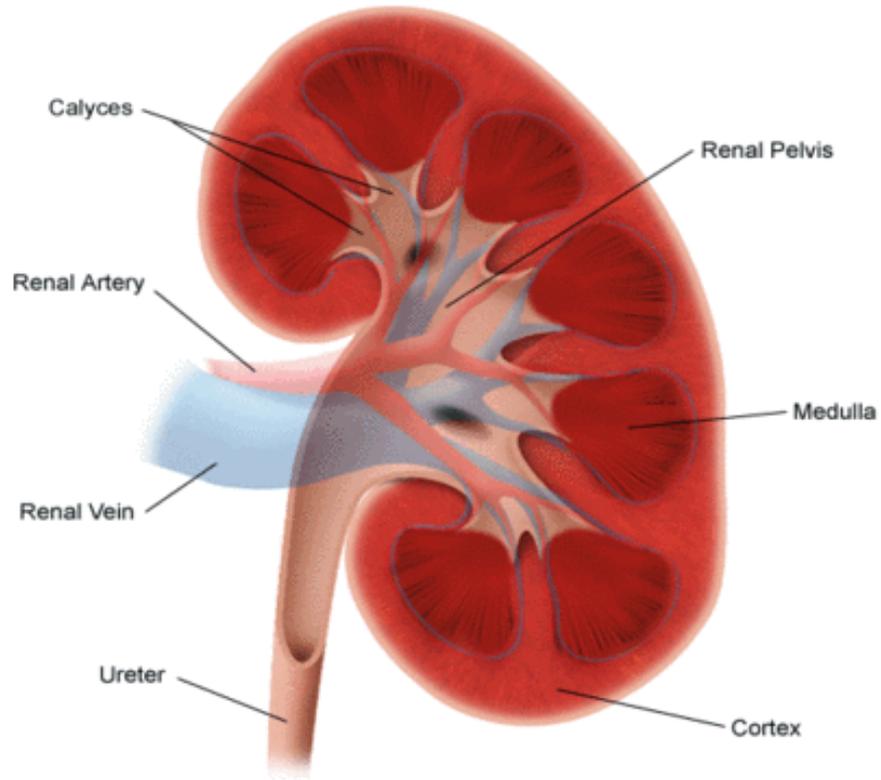
Nephrons – filtering unit, about 1 million per kidney

Glomerulus and Tubule – 2 step filtering system in each nephron

**Glomerulus** (filter) lets fluid and waste products pass through. Proteins and other large molecules cannot pass through the glomerulus of a healthy kidney.

**Tubule** reabsorbs needed fluid, electrolytes, and minerals that have been filtered out of the bloodstream by the glomerulus. These are returned to the bloodstream while the remaining waste is excreted.

Anatomy of the Kidney



# Kidney Disease – Nephrotic Syndrome

Childhood nephrotic syndrome can be diagnosed as **primary** (beginning in the kidney, and the most common type) or **secondary** (due to another illness).

Nephrotic syndrome is not a disease, but a group of symptoms indicating kidney damage, including:

- Proteins leaking through the glomerulus and into the urine (albuminuria)
- Decreased protein levels in the blood (hypoalbuminemia)
  - Swelling, especially in the legs
- Increased blood cholesterol and fat levels (hyperlipidemia)

- Primary nephrotic syndrome may be caused by genetic factors, but this is not well established.
- Secondary nephrotic syndrome is more likely to occur in children after certain severe infections, who take medications that damage the kidney, or who have other illnesses that affect the kidney.
- Nephrotic syndrome is occurs more often in boys than girls (2:1).

# Kidney Disease – Nephrotic Syndrome

Common complications of Childhood Nephrotic Syndrome include:

- **Infection** Proteins of the immune system that help fight infections are among the proteins that leak out of the glomerulus in children with nephrotic syndrome. This puts them at increased risk of infection.
- **Blood clots** Losing proteins into the urine increases the risk of blood clots forming. Sometimes children will take medication to prevent clots from forming.
- **High blood cholesterol** When albumin (protein) is excreted into the urine, there is a lower level in the blood. The liver makes more to compensate, but also produces cholesterol in this process.



# Kidney Disease – Nephrotic Syndrome

Primary nephrotic syndrome is treated with medications, and often remission is achieved. While children may relapse, or have recurring symptoms of nephrotic syndrome, most recover without long-term kidney damage.

## Medications used to treat Primary Nephrotic Syndrome

Immune suppressants

- Corticosteroids
- Mycophenolate (Cellcept)
- Cyclosporine
- Tacrolimus (Prograf)
- Cyclophosphamide (Cytoxan)

Diuretics

- Furosemide (Lasix)
- Chlorthalidide (Diuril)

Antihypertensives

- Amlodipine (Norvasc)



# Kidney Disease – CKD/ESRD

**Acute kidney injury** – develops suddenly, lasts a short time, and can be very serious. There may be long-term complications once the initial kidney injury is treated.

**Chronic kidney disease** – does not improve with treatment and gets worse over time. CKD eventually leads to **end-stage renal disease (ESRD)**, when the kidneys fail to function in filtering blood properly. Renal failure leads to life-threatening complications and requires kidney transplant or dialysis treatments to filter the blood.

Causes of CKD and ESRD in children include:

- Polycystic kidney disease
  - Obstructive uropathy
  - Reflux nephropathy
- Hypoplastic or dysplastic kidneys
- Glomerular injury due to nephrotic syndrome

CKD disproportionately affects children of lower socioeconomic status and minority racial and ethnic groups.



# Kidney Disease – CKD/ESRD

There are stages of severity within chronic kidney disease, based on the glomerular filtration rate (GFR) and presence of protein in the urine.

- Stage I
  - Normal GFR (90mL/min per 1.73m<sup>2</sup>), persistent albuminuria
- Stage II
  - GFR 60-89mL/min per 1.73m<sup>2</sup>), persistent albuminuria
- Stage III
  - GFR 30-59mL/min per 1.73m<sup>2</sup>
- Stage IV
  - GFR 15-29mL/min per 1.73m<sup>2</sup>
- Stage V
  - GFR <15mL/min per 1.73m<sup>2</sup>

Inability to filter blood leads to protein spilling, volume shifts, and electrolyte imbalance.

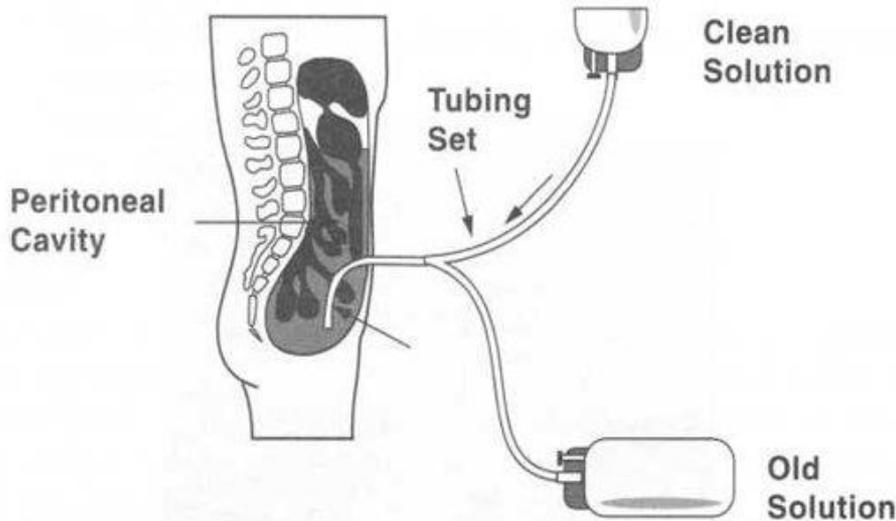
In early stages (stage I & II), CKD may be asymptomatic. Symptoms seen in children with advanced CKD may include:

- Polydipsia and nocturia (due to lack of ability to concentrate urine) – early sign
- Hyperkalemia
- Volume overload
- Hypertension
- Metabolic acidosis
- Anemia
- Nausea and vomiting, poor appetite
- Bone disease
- Heart disease

Children with CKD may not grow as quickly as their peers. They also will often have prescribed fluid intake goals/limits, and a special diet to limit the intake of protein, sodium, and phosphorus.



# Kidney Disease – ESRD – Peritoneal Dialysis



The clean solution, dialysate, is composed of high and low concentrations of various electrolytes and solutes to filter substances out of and in to the blood stream through the peritoneal membrane. The fluid is then drain. This takes several hours to complete.

People with ESRD use dialysis to filter their blood when their kidneys have failed. **Hemodialysis** involves filtering the blood through a machine outside of the body, while **peritoneal dialysis** involves instillation of fluid into the peritoneal cavity to filter the blood via osmosis.

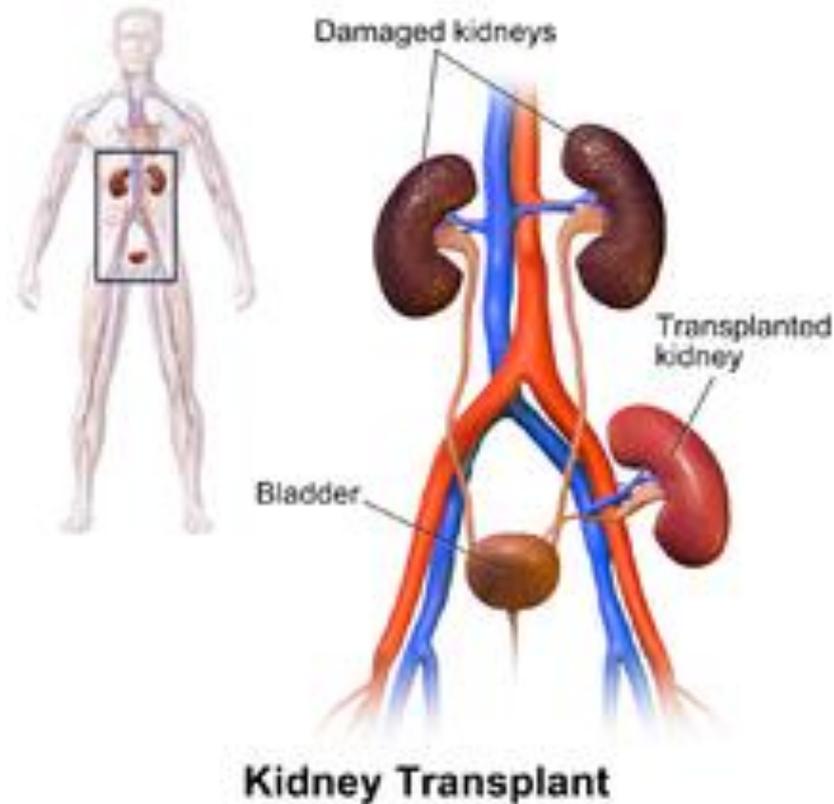


# Kidney Disease – ESRD – Kidney transplant

The best treatment for ESRD is to transplant a healthy kidney into the child's body.

The healthy kidney is surgically placed in the abdomen. It is very important to take good care of this transplanted kidney by:

- **Staying hydrated!**
- **Taking anti-rejection medications exactly as prescribed** (i.e. tacrolimus, cyclosporine, Cellcept, prednisone, etc.)
- **Avoiding any abdominal trauma** (the transplanted kidney is not protected by the ribcage in its abdominal location)



# Kidney Disease – Camper considerations

Help the counselors keep these kids safe and healthy at camp by:

- Following their hydration needs! Some campers must keep their kidney(s) very well hydrated, while others have a fluid intake limit.
- Following prescribed diets. Some campers must limit protein, phosphorus, and sodium. The salt shakers will be removed from the table, and the nutrition team will prepare special meals as needed.
- Avoid contact sports/abdominal trauma! This is very important for campers with a transplanted kidney. Make sure staff in program areas are aware as well (i.e. adventure tower).
- If campers have appointments in the Body Shop for peritoneal dialysis, they **MUST BE ON TIME!** Make a plan with the counselors, and help them to keep the camper occupied during dialysis.
- If campers have a peritoneal dialysis catheter, it must be kept clean. For some campers, this may mean limitations on swimming or a need for a dressing change immediately after showering or swimming.



# Immunologic Diseases



# Immunology

There is a broad spectrum of illnesses and disorders that affect the immune system.



Some of the more common immunological diagnoses at camp are

- CVID (common variable immunodeficiency)
- SCIDs (severe combined immunodeficiency)
- HIV (human immunodeficiency virus)
- Bone marrow failure (severe aplastic anemia, Diamond Blackfan anemia)
- Hypogammaglobulinemia (low levels of immunoglobulin)

While the pathophysiology varies, the commonality among campers with immune disorders is that they are susceptible to infection.



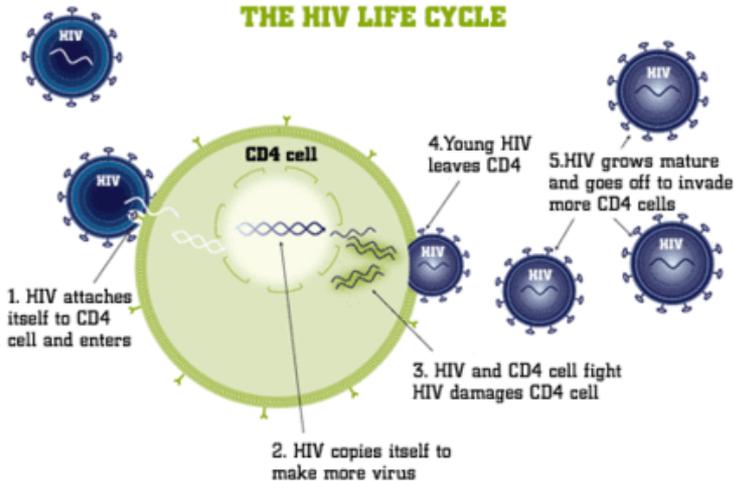
# Immunology - HIV

Almost all HIV positive children < 13 years old in the U.S. acquired the virus prenatally or through breastfeeding. Diagnosis of an infant typically occurs between 2 and 3 months of age.

Children with HIV often have other health problems, including:

- Poor growth or weight gain
- Opportunistic infections (candida seen as diaper rash or thrush, pneumonia)
- Learning disabilities
- ADHD

## THE HIV LIFE CYCLE



HIV Treatments focus on preventing the virus from replicating.

These medications are called antiretrovirals.

\*Antiretroviral medications are very expensive and can have many unpleasant side effects, making adherence a challenge.\*

\*Some campers with HIV may also take medications to increase their appetite or manage their ADHD.\*

# Immunology – CVID and SCIDs

Name	CVID (common variable immune deficiency)	SCIDs (severe combined immunodeficiency)
What?	<p>Genetic (autosomal recessive) or spontaneous (with genetic and environmental influence).</p> <p>Mutation causes dysfunction in B cells, low levels of antibodies produced.</p>	<p>Genetic (X-linked recessive) mutation that results in immune system failure.</p> <p>Too few B and T cells are formed and are missing receptors to communicate.</p>
How?	<p>Highly susceptible to infection, especially bacteria. Recurrent infections of lungs, sinus, and ears are common.</p>	<p>Highly susceptible to infection. Symptoms appears in first months of life with recurrent infections of skin, lungs, ears, and lungs.</p>
Who?	<p>Estimated 1 in 25,000 to 1 in 50,000 worldwide</p>	<p>Estimated 1 in 100,000. Without prompt diagnosis and treatment, often will not live past age 2.</p>
Other	<p>About 25% of those with CVID also have an autoimmune disorder</p>	<p>“Bubble Boy” disease</p>
Treatments	<p>Prophylactic antibiotics, prompt treatment of suspected infection, IVIG (immunoglobulin) replacement infusions.</p>	<p>Avoid sources of infection. Best option is a bone marrow transplant. Gene therapy treatments in research.</p>

# Immunology at Victory Junction

## Infection Prevention and Standard Precautions

### Germ Farm



### Scrub'em!

Hand washing is the best way to prevent infections at camp.

Nurses should help enforce good practices! (Especially after touching fish, horses, or other animals)

If it's wet, sticky, and not yours – wear gloves!

Latex-free gloves are available all around camp for counselors and nurses to use as PPE.



Anyone with symptoms of a contagious illness must report immediately to the full time medical staff.

Volunteers and staff are screened prior to camper arrival.



# Immunology at Victory Junction

## Additional Questions for Medical Check-In:

- When was your last IVIG treatment (if applicable)?
- Do you have any activity limitations to prevent infection?
  - Think fishing and exposure to farm animals
- Remind the camper about the importance of handwashing!

Last, but not least, always ask:

Is there anything else I should know to make sure you have a safe and fun week?

Counselor Notes	edit...
Medical Check-In Notes	edit...
Special Dietary Notes	edit...
Special Notes	edit...
Unit Nurse Notes	edit...
Volunteers assigned	edit...

Update the notes as applicable.

Counselors do not need all the medical information, but do need to know about any activity restrictions.



Thank  
you!



# References

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