



# Fairview Home Infusion FHI Highlights

## An Overview of Cystic Fibrosis

Cystic Fibrosis (CF) is an inherited disorder that affects the cells that produce mucus, sweat and digestive juices. Normally, these secretions are thin and slippery and provide lubrication. In someone with CF, a defective gene causes the secretions to become thick and sticky, resulting in clogged tubes, ducts, and passageways, especially in the pancreas and lungs.

Symptoms may start in infancy, adolescence or even adulthood. The effects are often cyclical and vary in severity. CF patients tend to have higher than normal amounts of salt in their sweat, which parents may discover when they kiss their child. This is often the first sign of the disease.

Most other signs and symptoms of CF affect the respiratory and digestive tract. Respiratory symptoms include cough, wheezing and lung and sinus infections. Complications include chronic infections, bronchiectasis, collapsed lung, nasal polyps and respiratory failure. It is not unusual for patients to ultimately require lung transplantation. Digestive symptoms include foul smelling and greasy stools, poor weight gain and growth, and distended abdomen from constipation. Complications include nutritional deficiencies, diabetes, blocked bile duct, rectal prolapse and bowel obstruction.

Common therapies to address respiratory issues include: inhaled mucolytic agents to thin lung secretions; bronchodilators to aid in opening constricted airways; vest therapy (a form of mechanical pummeling) to help loosen pulmonary secretions; and intense antibiotic therapy that is administered orally, intravenously or inhaled. Therapies for gastro-intestinal issues include: oral digestive enzyme replacement therapy, nutritional supplementation, therapies to manage diabetes and surgery for intestinal obstruction as needed.

Aggressive management of CF in all care settings, including the home, has led to a dramatic improvement in life expectancy. Thirty years ago, it was unusual for patients to survive past their late teens. Today, patients often survive into their 50's or beyond.



The CF team: Kim Ehlert, Jim Reisdorf, Ginny Schrenkler, Pamela Garretson

## Meet the Cystic Fibrosis Infusion Team

The FHI Cystic Fibrosis Infusion Team has over 50 years combined experience and over 20 years experience at FHI. This team focuses on patients with cystic fibrosis; one of the most common chronic lung diseases in children and young adults and a life-threatening disorder.

**Ginny Schrenkler, RN, Clinical Nurse Coordinator** coordinates new referrals and triages questions from nurses and patients. Ginny is an experienced nurse of 12 years and enjoys easing patients' transition from hospital to home. She grew up in St. Paul, MN and her favorite hobbies are swing dancing, laughing and being with friends. Her family includes a teenager, Armani, a dog and a cat. Ginny loves to volunteer and travels on a 10-day medical mission to Haiti each year.

**Pamela Garretson, Pharmacy Coordinator** has been with FHI for the past 3 years. She coordinates supplies and deliveries for patients and triages phone calls. She enjoys the challenge of working with complicated patients on an individual basis. Pam grew up in the St. Paul, MN area and recently moved to Lakeville with her husband, 2 dogs and cat. She loves to scrapbook, paint and cook. Fun fact: Pam is double-jointed and can maneuver her fingers in a wavy, awkward position.

**Kim Ehlert, Pharm D, Clinical Pharmacist** has been a pharmacist for the past 12 years, with an active role at FHI for 6 years. Her favorite role is developing relationships with long-term or recurring patients. Kim was born in New Mexico, grew up in Illinois and lived in Wisconsin for 6 years before moving to Minnesota. She is married to her husband, Dave, who is also a pharmacist, and has 2 boys – Ryan (4) and Nathan (1). Kim enjoys reading and writing and recently had an essay published in a *Chicken Soup for the Soul* book.

**Jim Reisdorf, Pharm D, Clinical Pharmacist** has been a pharmacist for 30 years and with FHI for over 4 years. He enjoys the problem solving and the creativity it takes to tailor therapy for each patient's needs. Jim was born and raised in St. Cloud, MN and became interested in pharmacy working for his father who owned a drug store. His uncle and spouse are also pharmacists. Jim and his wife have raised 5 children and to date, none of them are interested in carrying on the family pharmacy tradition. Jim enjoys reading non-fiction and cooking, because he loves to eat!

## Activity Corner

Using the 9 letters found in the words "Cystic Fibrosis" (C, Y, S, T, I, F, B, R, O), complete the following Sudoku puzzle:

C	R		Y	F		O	T	I
F				C	T	B	S	R
		O				Y		F
T			F		Y			S
Y			C	S	I			B
R			T		O	I		Y
I		R				F		
B	F	T	R	Y				O
O	Y	S		T	F		B	C

## DO YOU KNOW...



Many doctors now believe that physical exertion, especially running, can be an important part of CF patients' health regimens. The breathing that's involved with running seems to be really effective in clearing mucus from the lungs.

According to Runner's World Magazine, one patient has seen concrete proof that running makes her healthier. When she first took up the sport, her lung function was around 50 percent. But three months after she began training seriously for her first half-marathon, it rose to 70 percent. After years of checking into hospitals for treatment every three to four months, she has recently enjoyed 18 hospital-free months.

There is additional educational information available regarding day-to-day exercise on the Cystic Fibrosis website at:

[www.cff.org](http://www.cff.org)

## Infusion Drug: Ceftaroline fosamil (Teflaro®)

Ceftaroline is an intravenous broad spectrum semi-synthetic fifth generation cephalosporin that is active against both gram (+) and gram (-) bacteria, with the exception of gram (-) organisms that produce extended-spectrum beta lactamases. For patients 18 years and older, indications include community acquired pneumonia (CAP) and acute skin and soft tissue infections.

Ceftaroline fosamil is a prodrug converted to ceftaroline in plasma by phosphatase enzyme. Ceftaroline is not metabolized by the liver, but excreted via the kidneys. Therefore, no hepatic dose adjustments are required, but decreased dosages are necessary for renal insufficiency. Common lab values to be monitored include CBC, culture and sensitivity information and kidney function.

Skin and soft tissue infections are usually treated for 7-14 days, while CAP is treated for 5-7 days. Ceftaroline is dosed every 12 hours regardless of kidney function. Each dose is administered over one hour.

Common treatment related adverse effects include: diarrhea, nausea, headache, insomnia, crystalluria, elevated phosphokinase, ALT, AST and change in color/odor of urine. Common infusion related adverse effects include pain, swelling and thrombosis. Hemolytic anemia (detected by a positive Coomb's test) is an adverse effect of ceftaroline. Signs of hemolytic anemia include: back, leg, and/or stomach pains, bleeding gums, dark urine, breathing difficulty, fever, general body swelling, headache, loss of appetite, nausea or vomiting, nosebleeds, pale skin, sore throat, unusual tiredness or weakness and yellowing of the eyes. Pseudomembranous colitis, anaphylaxis and super-infection can also occur in patients treated with ceftaroline.

## New Product:

Coming soon to Fairview Home Infusion

Biopatch® protective disk with Chlorhexidine (CHG) for all patients with a central line!

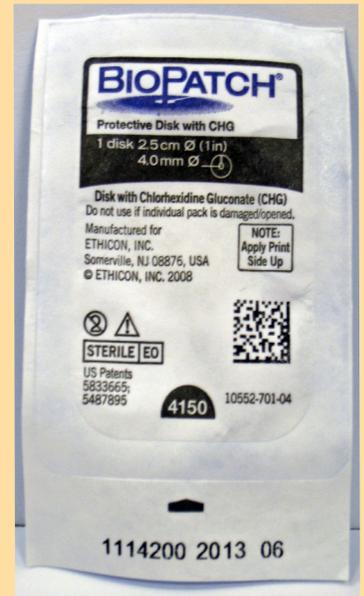
Even though the central line-associated blood stream infection (CLABSI) rate has traditionally been low at FHI, a goal has been set to reduce these infections to zero if possible.

The Biopatch® disk was chosen as the methodology used to decrease CLABSIs for several reasons:

- The Biopatch® disk has been proven to be effective in reducing the occurrence of blood-stream and local infections for central venous catheters.
- There have been few adverse reactions to the Biopatch® disk.
- The disk is already in use by many Fairview entities.

Educational information on the use of the Biopatch® disk will be provided to all entities working with FHI prior to implementation.

Use of the Biopatch® disk does not replace measures currently being used to prevent infection such as hand hygiene, adhering to principles of aseptic technique and scrubbing the hub of the injection cap. It is simply another tool in our tool box.



## Activity Corner: Answer Key

C	R	B	Y	F	S	O	T	I
F	I	Y	O	C	T	B	S	R
S	T	O	B	I	R	Y	C	F
T	B	I	F	R	Y	C	O	S
Y	O	F	C	S	I	T	R	B
R	S	C	T	B	O	I	F	Y
I	C	R	S	O	B	F	Y	T
B	F	T	R	Y	C	S	I	O
O	Y	S	I	T	F	R	B	C



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