Welcome

Goal

The goal of this course is to understand how to protect yourself, your patients and your community against the ongoing dangers of COVID-19

Objectives

By the end of this course, you should be able to:

* Describe how COVID-19 is transmitted
* List situations in the workplace that could result in COVID-19 infection
* Describe best practices to prevent COVID-19 spread at work and home
* Describe importance of COVID vaccine in preventing spread of COVID

SARS-CoV-2 (Severe Acute Respiratory Syndrome-Coronavirus-2)

* SARS-CoV-2 is a NEW respiratory virus identified for the first time in late 2019.
* It likely started in animals before spreading to people.
* SARS-CoV-2 is related to common cold viruses but because it was a new virus, people didn’t have any pre-existing protection, so everyone was susceptible to getting infected
* COVID-19 has spread worldwide causing millions of deaths.

Symptoms of COVID

* Often mistaken for allergies or “regular cold”
* Fever only present in about 1/3 of outpatients
* Common symptoms include:
	+ Cough
	+ Loss of taste and/or smell
	+ Fatigue
	+ Muscle Aches
	+ Sore/Scratchy throat
	+ Fevers and/or chills
	+ Headache
	+ Shortness of breath
	+ Diarrhea, nausea, and vomiting

Who is at Risk for COVID-19 Infection?

* Even young and healthy people can become very sick from COVID-19
* **People who work in healthcare settings are at increased risk of exposure/infection**
* Risk factors for severe illness and death include:
	+ Age >65 years of age
	+ Other medical problems
	+ Obesity
	+ Pregnancy
* COVID has had a disproportionate impact on racial and ethnic minority groups, specifically:
	+ Black/African American
	+ Hispanic/Latinx

When to Seek Medical Evaluation if you are sick from COVID

* Closely monitor your symptoms
* If symptoms worsen or you develop any of the following contact your physician
	+ Inability to keep food or drink down or stay hydrated
	+ High fever that is persisting
	+ Intense cough
* Seek immediate medical care if you have:
	+ Difficulty breathing
	+ New Confusion
	+ Inability to wake or stay awake
	+ Bluish face or lips
	+ Persistent pain or pressure in the chest

COVID-19 Modes of Transmission

* Most people get COVID-19 from other people, when in close contact (within 6 feet).
* It spreads through droplets created when we talk, cough, sing, sneeze or breathe heavily.
* These droplets enter the nose, eyes or mouth or when the infected droplets are inhaled.
* In indoor spaces with inadequate ventilation, COVID-19 has spread to people who were more than 6 feet away.
* Touching contaminated objects puts the droplets onto your hands. If you touch your face the droplets can enter your nose / eyes / mouth.
* Infected people with minimal or no symptoms can spread COVID-19.

You can Spread COVID to others before you Start Feeling Sick

* Most people become sick with COVID between 2 and 5 days after they are exposed to an infected person but can be up to 14 days
* Infected people shed virus 48 hours prior to symptom onset and first several days of illness
* **People can spread COVID 48 hours before symptom onset so need to always follow covid safe behavior when able.**

Who is most at Risk for COVID Infection at Work?

* Essential Workers including Healthcare workers
	+ Potential sources of infection
		- Patients/Customers
		- Fellow co-workers
		- Community sources
* Studies have shown that frontline healthcare workers are up to 4-7 times MORE likely to have COVID than the general community

What is COVID-Safe?

* Set of care standards intended to protect patients, visitors and medical staff
* Based on the following principles
	+ Ensuring patients get the care they need safely during the COVID-19 pandemic
	+ Social distancing
	+ Infection prevention cleaning and hand hygiene protocols
	+ Minimizing mixing of sick and well
	+ Appropriate use of personal protective equipment
* Applies to clinical and non-clinical areas of all types

Elements of the Atrium COVID-Safe Environment

* Symptom screening on arrival for patients and visitors
* Social distancing
	+ Cues to maintain physical distancing in waiting rooms, check-in lines, etc.
	+ Text message notification when ready for appointment
	+ Electronic tools for check-in
* Enhanced environmental cleaning protocols

COVID-Safe Hand Hygiene and Personal Protective Equipment

* Mask for all patients, visitors and staff while in an Atrium facility
* Commitment to hand hygiene before **and** after every encounter

How to Wear a Surgical Mask

* Mask must securely cover your nose and mouth
* **Mold the nose wire** to fit snugly along the top of the mask
* **Check for gaps** around the outside edges of the mask
	+ Cup your hands around the outside edges of the mask
	+ Make sure no air is flowing from the area near your eyes or from the sides of the mask
	+ If the mask has a good fit, you will feel warm air come through the front of the mask and may be able to see the mask material move in and out with each breath
* Masking should occur in healthcare setting at all times unless when in personal office alone with room closed or when eating in common areas but need to be socially distanced.
* Options to try if you have gaps:
	+ Try using a pediatric mask if your face is small
	+ Use an extender, if available, to tighten the fit
	+ Knot and tuck ear loops at show in the picture below and [in this video from Atrium Health infection prevention team](https://web.microsoftstream.com/video/e0522cc1-d0bf-49f4-a4c5-39d8f2b6dc1f)

How do we Prevent COVID from Entering our facilities

* Teammate Responsibilities
	+ Wear all required personal protective equipment
	+ Wash your Hands Regularly
	+ Screen yourself for symptoms of covid each day
	+ STAY HOME IF YOU ARE SICK and report your symptoms promptly to Teammate Health and your leader
	+ To report COVID like symptoms and arrange testing do one of the following
		- Complete online form [Teammate COVID-19 Symptom Screening (office.com)](https://forms.office.com/Pages/ResponsePage.aspx?id=BKaW0ZPZKECQ3-Ij1oEm0rpuMq_DmxNEu2WA3Mc9sSVURTlKWkwwTEJFWktWNEQ3UEJLOVNCRDJYOSQlQCN0PWcu&wdLOR=c88242ACC-4D2F-4566-A898-FEDBA41AE062)
		- Report through Teammate Health COVID Phone Line – 704 631 0200

Standard Precautions

**TREAT EVERYONE THE SAME – REGARDLESS OF KNOWN INFECTION or ISOLATION STATUS**

**Wear the appropriate PPE to protect you with every patient**

* MASK/Respirator. REQUIRED ALL the time.
* EYE PROTECTION, GOWNS and GLOVES recommended any time there is a reasonable anticipation of blood or body fluid exposure. REQUIRED for Special Contact Droplet
* PHYSICAL DISTANCING applies to patient care and non-patient care areas

Isolation and PPE Requirements for Suspected or Confirmed COVID Patients

* Clean hands
* Up to date fit testing for N95/Equivalent Respirator OR Access to PAPR with documented training
* Eye protection
* Gown/Gloves
* Airborne Isolation Room is preferred

Donning (Putting on) /Doffing (Taking off) COVID PPE

PPE Care

* PPE should be inspected for damage, cracks, tears prior to use.
	+ If damaged, do not use.
* Disposable masks, N95 respirators, gowns, and gloves should be discarded:
	+ If torn or otherwise damaged
	+ When removed
* Eye protection:
	+ Goggles may be reused repeatedly but should be discarded when damaged
	+ Clean between each use with Purple, Orange, or Grey top wipes
	+ **Note:** Face shields attached to masks are single use and should be discarded after each use

Half-Face Respirator Care

* Clean each time it is removed
* Remove respirator carefully
* Remove filters with a gloved hand and set aside
* Wipe and clean inside and outside mask with Grey, Orange, or Purple top disinfectant wipes
* After appropriate contact time, use clean cloth to wipe disinfectant from inside where sealing edges touch the face
* Replace filters with a gloved hand
* Store respirator and filters in a clean paper bag or other breathable container

More information can be found on the Respiratory Protection page on PeopleConnect.

PAPR Care

**PAPR:**

* Inspect before using
* Clean between each use with Purple, Orange, or Grey top wipes
* Wipe all surfaces of the blower housing, and tube following the contact time for the wipe used

**PAPR Hood:**

* Inspect before using
* Clean between each use with Purple, Orange, or Grey top wipes
* Hoods may be used repeatedly but should be discarded when torn/damaged, if the elastic is no longer taut, or if it becomes grossly soiled.
* At end of shift, place clean hood in a plastic bag, labeled with the teammate’s name.
* Store at room temperature, in a dry area, protected from contamination

Effective Protection from COVID – No one behavior is 100%

* Preventing the spread of COVID requires ALL of the Following
	+ Appropriate use of personal protective equipment
		- Wearing a mask that covers your nose and mouth per policy and ensuring patients and visitors are as well unless in a room alone
		- Ensuring you are up to date with annual N95 fit testing if you are seeing or have the potential of seeing patients with suspected or confirmed COVID
	+ Staying home when sick with COVID-like symptoms
		- Report symptoms promptly to Teammate Health
		- Get tested promptly for COVID
	+ Screening patients and visitors for symptoms of COVID
	+ Maintaining physical distancing
	+ Frequent hand washing
	+ Thorough cleaning of the environment

Aerosol Generating Procedures (AGP)

* Increased risk of exposure to respiratory droplets during the AGP
* During a pandemic, there is a risk of patients being infected without symptoms, so it is important to enhance precautions during these high-risk procedures
	+ N95/equivalent respiratory during the procedure and for appropriate time post procedure
	+ All clear time indicated with sign on door
* [Go to PeopleConnect for current list of AGP](https://peopleconnect.atriumhealth.org/Docs/InfDis/COVID-19%20Resources/Infection%20Prevention/Isolate%20-%20PPE%20Guidance/Clinical%20Tools/All%20Aerosolizing%20Procedures.pdf)

Resources and Policies to Stay Up to Date on COVID Guidance

* [People Connect/Physician Connect Updated regularly as guidance changes](https://peopleconnect.atriumhealth.org/Clinical/Infectious-Disease/Outbreak-Information/Coronavirus)
* Leader communication
* EOC Communication
* Huddles

Why COVID Vaccines are Essential to Preventing Spread of COVID

Impact of COVID-19

How All Vaccines Work

1. A weak or dead form of the germ is introduced
2. This sparks your immune response to develop antibodies that remember the germ
3. The antibodies fight off the germ if it invades again

Benefits of COVID Vaccines

1. Decreased risk of illness for the individual vaccinated
2. Decreased risk of illness in the vaccinated individuals contacts
3. Decreased community spread
4. Fewer COVID hospitalizations and deaths
5. More lives saved!!!

COVID Vaccine Breakthrough Cases are Rare

* Fully vaccinated means being 2 or more weeks after completing COVID vaccine series
* More than 139 million in US are fully vaccinated
* No vaccine is 100% effective and there will be a small number of fully vaccinated people who still get COVID (these are called breakthrough cases)
* 5814 Breakthrough cases COVID
	+ 7 per 100,000 fully vaccinated
	+ 40% > 60 years of age
	+ 65% women
	+ 29% asymptomatic
	+ Few with severe illness

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/effectiveness/why-measure-effectiveness/breakthrough-cases.html

I’m Fully Vaccinated… Now what can I do???

* Fully Vaccinated Can Travel without quarantine or testing in the US
* No longer need to quarantine or test after exposure at home or in the community
* Testing for COVID only if develop symptoms
* Fully Vaccinated No Longer Need to Mask in Public\*
	+ \*Exceptions - masks still required on all forms of indoor public transportation, all healthcare facilities and as required by businesses

Addressing the Most Common COVID Vaccine Concerns

Top 6 Reasons for Not Getting Vaccinated:

1. Belief that the vaccines are not tested enough
	* **FACTS:**
		+ The COVID-19 vaccine was made based on many years of work. While steps were done quickly, no steps were skipped.
		+ All vaccines are tested, safe and effective (Pfizer/BioNTech, Moderna, and Johnson & Johnson
		+ All are rigorously tested for safety and effectiveness with no serious concerns
		+ More than 35,000 people volunteered in clinical trials
		+ They protect you by helping to prevent COVID-19, hospitalization, and death.
		+ You could have temporary reactions like a sore arm, fever, headache, or feeling tired and achy for a day or two.
2. Worried about potential side effects, “Wait and See” how others do
	* **FACTS:**
		+ You might have some side effects that last only a short period of time of 1 to 2 days. This means your body is building protection.
		+ Common side effects:
			- On the arm where you got the shot: pain, redness, or swelling.
			- Throughout the rest of your body: tiredness, headache, muscle pain, chills, fever, or nausea.
		+ Johnson & Johnson:
			- Out of an abundance of caution, the CDC, FDA and NC Department of Health and Human Services recommended a pause (4/12) in the use of the Johnson & Johnson vaccine.
			- This was based on very rare cases of blood clots with low platelets in the 2 to 3 weeks after receiving the COVID vaccine
			- After review, the CDC recommended resuming the use of the vaccine (4/23).
			- These developments should provide some reassurance that all vaccines are continually monitored by the CDC and FDA to ensure the safety of their use.
			- While these serious reactions to the J&J vaccine are less than one per million of J&J vaccines administered, they are all fully investigated to ensure and confirm the safe use of each vaccine.
			- While still rare rates in women aged 18 to 50 slightly higher at 5 to 7 per million
			- Wait 3 to 6 months after prior Thrombotic Thrombocytopenia syndrome if want J&J (clot with low platelets)
			- Ok to get mRNA vaccine whenever
			- Ok to get J&J if you have had isolated blood clots (PE, DVT, CVA), TCP without clots, risk factors for clots (OCPs, etc) in the past
		+ **Just want to wait and see? It's Time!**
			- >50% United States Population at least one dose
			- Billions have received vaccine worldwide
			- More and more data on safety and efficacy as time has passed continues to hold up
3. Afraid of getting COVID-19 from the vaccine
	* **FACT:**
		+ None of the COVID vaccines contain the live virus that causes COVID-19 so it cannot make you sick with COVID-19.
		+ The vaccine will help to protect you from getting COVID-19 by teaching your body how to make an antibody to fight COVID-19.
		+ That's how you win, and the virus loses.
4. Concerned about infertility, pregnancy, and breastfeeding
	* **FACT:**
		+ Social media messaging has been spreading that vaccine causes infertility
		+ These claims are untrue
		+ These claims have been reviewed by experts on fertility and there is NO data to support that these vaccines impact fertility
		+ People undergoing fertility treatment and/or attempting to get pregnant are encouraged to consider getting the vaccination
		+ *Arguments to Hold Off*
			- Pregnant women were not included in the COVID-19 vaccine trials
			- mRNA vaccines (first available) are low risk but not previously studied in pregnancy
		+ *Arguments to Consider*
			- Benefit
				* COVID infection during pregnancy has been associated with increased severity of illness, death and preterm labor
				* Potential protection of the baby through the mother’s antibodies
			- What we know from COVID-19 data to date
				* Studies for all available vaccines show no signs for concern
				* Individuals became pregnant during COVID-19 vaccine trials – no issues reported to date
				* VAERS, V-safe data no signs of pregnancy related complications above baseline community rates
			- Expert opinions. The medical groups below recommend considering vaccination for pregnant women:
				* American College of Obstetricians and Gynecologists
				* Advisory Committee on Immunization Practices
				* Society for Maternal-Fetal Medicine
		+ COVID Vaccine Trials in Pregnancy
			- Benefit
				* COVID infection during pregnancy has been associated with increased severity of illness, death and preterm labor
				* Potential protection of the baby through the mother’s antibodies
			- What we know from COVID-19 data to date
				* Developmental and Reproductive Toxicity (DART) studies – no signs of fetal toxicity in animal studies

Pfizer

Moderna

Johnson and Johnson

* + - * + Clinical trials on Pregnant Women

Pfizer trials started 2/2021

* + - * No Difference in Side Effects between Pregnant and Non-Pregnant Women
			* No Difference in Pregnancy Outcomes between Vaccinated Women and Background Rates of Pregnancy Complications
			* Does the Infant Benefit from Maternal Vaccination? Yes!
				+ Studies in Philadelphia, Denmark

In mothers with positive antibodies, 67 to 87% of babies tested positive for IgG

Antibody transfer unrelated to severity of maternal illness, higher with longer time to delivery when infected/vaccinated

* + - * + Antibody levels same in pregnant/lactating and non-pregnant
				+ Antibody levels HIGHER in vaccinated pregnant women compared to “naturally infected” pregnant women
				+ Antibodies present in ALL breastmilk samples tested
				+ Of the 13 who delivered babies during the study period

All vaccinated in third trimester

Antibodies present in all umbilical cord blood samples

Gray et al. AJOG. Published:March 25, 2021 DOI: https://doi.org/10.1016/j.ajog.2021.03.023

Flannery et al. JAMA Pedatr. Publiched online January 29,2021. doi:10.1001/jamapediatrics.2021.0038

1. There are harmful ingredients in the COVID-19 Vaccine
	* **FACT:**
		+ There is **NO LIVE VIRUS** in the vaccines.
		+ The ingredient list for the vaccines does not include any toxic ingredients.
		+ Severe allergic reactions to mRNA vaccines remain rare (3 to 5 per million doses given)
		+ The COVID-19 virus has killed over 500,000 Americans and more than 1.6 million people worldwide
		+ *Ingredients:*
			- Pfizer COVID Vaccine:
				* Messenger ribonucleic acid (mRNA)
				* Lipids ((4- hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate), 2 [(polyethylene glycol)-2000]-N,N-ditetradecylacetamide, 1,2-Distearoylsn-glycero-3- phosphocholine, and cholesterol)
				* Potassium chloride
				* Monobasic potassium phosphate
				* Sodium chloride
				* Dibasic sodium phosphate dihydrate
				* Sucrose
			- Moderna COVID Vaccine:
				* Messenger ribonucleic acid (mRNA)
				* Lipids (SM-102, polyethylene glycol [PEG] 2000 dimyristoyl glycerol [DMG], cholesterol, and 1,2-distearoyl-sn-glycero3-phosphocholine [DSPC])
				* Tromethamine
				* Tromethamine hydrochloride
				* Acetic acid
				* Sodium acetate
				* Sucrose
2. Why would I get the vaccine, I had COVID already?
	* **FACT:**
		+ We are still learning how long protection lasts after COVID infection but we know not everyone responds the same
		+ Reinfection occurs and we have had teammates with 2 and 3 COVID infections
		+ Vaccines provide consistent and higher protection in many individuals
		+ Even healthy people can have severe consequences from COVID infection

Covid-19 Prevention Summary

COVID 19 Prevention is essential to keep patients, visitors and healthcare workers safe. Prevention is multifactorial as below:

* Screening all patients, visitors and staff for COVID symptoms
* Following all components of covid safe behaviors at all times
	+ Social distancing
	+ Appropriate PPE
	+ Avoid working while sick
		- Increase vaccination to break chain of transmission