# New Employee Orientation Infection Control Course

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### **INFECTION PREVENTION** at it's finest!

### **Purpose:**

- Identify how infections are spread
- Understand how to protect patients and visitors
- Understand how to protect yourself



### **INFECTION PREVENTION** at it's finest!

### WHAT IS AN INFECTION?

- Condition resulting from the presence and invasion of microorganisms.
- For infection to occur organism must:
  - Enter the body
  - Grow and multiply
  - Cause a response



# Statistics of Hospital-Acquired Infections (HAIs)

Statistics show that 1 in every 20 patients develops an infection while in the hospital.

CDC Annual Estimates of Hospital Acquired Infections (HAI) in the U.S.

- 12 million hospital-acquired infections
- 90,000 deaths associated with infections



# Multi-Drug Resistant Organisms (MDRO)

A growing number of infections in hospitals are caused by Multi-Drug Resistant Organisms (MDRO).

MDROs commonly seen at your hospital include:

- MRSA (Methicillin-Resistant Staph. aureus)
- VRE (Vancomycin-Resistant *Enterococcus*)
- ESBL (Extended-Spectrum Beta-Lactamase Producers)
- CRE (Carbepenem-Resistant Enterobacteriaceae)

All Patients with MDRO infection should be in ISOLATION precautions when they are admitted to the hospital.

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## **Infections of Concern**

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Other infections may require specific isolation precautions. Such infections may include:

### **Gastrointestinal infections:**

CDIFF (Clostridiodes difficile)

### **Emerging Infectious diseases:**

- Candida auris
- Novel Coronavirus (2019-nCoV)

### Germs can be spread

### By:

- Contact:
  - Direct transmission occurs directly from one person to another.
  - Indirect touching a contaminated surface or equipment

### Droplet:

Transmission occurs by coughing or sneezing within 6 feet

### Airborne:

Transmission occurs by coughing, talking, sneezing in a patient room

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### Germs are all around

### We know that:

- We should practice hand hygiene after touching things that might be contaminated.
- We should regularly clean/disinfect potentially contaminated surfaces and equipment
- We should cover our cough and sneezing

### What we might not think about:

- Germs can live on surfaces for a long time
- Most surfaces and equipment are contaminated

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# **Potential Contaminated Surfaces**

Germs are all around us, especially in healthcare facilities! **ALWAYS**:

- Practice hand hygiene after touching surfaces in the patient room, common work spaces, and even outside the clinical areas.
- Clean and disinfect these areas frequently.

Studies of patients' rooms show that germs like MRSA and C. dif are on:

most surfaces, including anything the patient might have touched

 anything that healthcare workers might have come in contact with after touching the patient.







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### **Prevention**

YOU can help prevent hospital-acquired infections and transmission of MDROs.

### Practice **STANDARD PRECAUTIONS**, including:

- Always wash or sanitize hands before and after touching a patient or patient's environment.
- Ensure that equipment and work surfaces are cleaned and disinfected frequently.

### Follow **ISOLATION PRECAUTIONS** when indicated.

- Ensure that everyone entering the isolation room wears appropriate PPE.
- Equipment and supplies brought into the isolation room should be either: disposable, OR dedicated to use of the patient; OR disinfected before re-use.

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# Hand Hygiene – Standard Precautions

The **MOST IMPORTANT** component of Standard Precautions is hand hygiene.

It's not just "hand washing" anymore. Hand washing has evolved to hand hygiene, which means you have two options.

- Hand washing
- Hand Sanitizer



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The World Health Organization study has shown good hand hygiene practices prevent the spread of infection.



Evidence of hand hygiene to reduce transmission and infections by multidrug resistant organisms in health-care settings

https://www.who.int/gpsc/5may/MDRO\_literature-review.pdf

### Hand Hygiene – Hand Sanitizer (Option 1)

#### RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

Duration of the entire procedure: 20-30 seconds



Apply a palmful of the product in a cupped hand, covering all surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.



Patient Safety A World Alliance for Safer Health Care SAVE LIVES Clean Your Hands

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### Hand Hygiene – Hand Washing (Option 2)

#### WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

Duration of the entire procedure: 40-60 seconds



Wet hands with water;



Right palm over left dorsum with interlaced fingers and vice versa;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Dry hands thoroughly with a single use towel;



Apply enough soap to cover all hand surfaces;



Palm to palm with fingers interlaced;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Use towel to turn off faucet;



Rub hands palm to palm;



Backs of fingers to opposing palms with fingers interlocked;



Rinse hands with water;



Your hands are now safe.



Patient Safety

SAVE LIVES Clean Your Hands

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## Hand Hygiene – Expectations

### Sanitizer OR wash your hands

- Every time you enter a patient's room (CLEAN IN)
- Every time you leave a patient's room (**CLEAN OUT**)
- Using the "Your 5 Moments" guideline (CLEAN AGAIN)

### Gloves are not a substitute for hand hygiene

- You should perform hand hygiene:
  - Before putting gloves on
  - ✓ After removing gloves

There are also **5 hand hygiene moments** that can occur in a patient room.

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# Your 5 Moments for Hand Hygiene



# Hand Hygiene – Nails and Lotions

Healthcare workers who work in patient care areas or handle medications or food will:

- Keep nails clean, smooth, well-manicured and less than 1/4 inch long
- Don't wear artificial nails (acrylic or bonded nails, tips or wraps)
- Unchipped nail polish may be worn





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- Use Only the approved lotion at your hospital because:
- Other commercially available products are oil-based or petroleum-based and can interfere with hand hygiene products!

### **Culture of Hand Hygiene**

# Hard-wire Hand Hygiene

- Like fastening your seat belt
- Like stopping at a stop sign





# **Hand Hygiene Monitor**

### SwipeSense Monitor System

- Staff wear badge (manager will distribute)
- Hand sanitizer sensor
- Location hub in patient room (do not unplug or remove)
- Communication hub (located at RN station)
- The system is at the two main acute care hospitals



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# **Hand Hygiene Monitor**

### SwipeSense Monitor System

- Dashboard
- Managers have access to view unit performance and individual performance



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# **Disinfectants and Cleaning**

Clinical staff use hospital approved disinfectants to clean:

- work surfaces
- patient care equipment
- other items (keyboards, phones, etc.)

If there is visible soil, use one SaniCloth to wipe clean the surface and an second to disinfect it. Allow surface to remain wet for the appropriate amount of time to kill germs most effectively. Please refer to the product label on the container for the correct wet contact time.

> Sani-cloth Super needs to remain wet on surfaces for 2 minutes



Sani-Cloth Bleach needs to remain wet on surfaces for 4 minutes



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# **Disinfectants and Cleaning**

Housekeeping uses:

- Hospital approved disinfectants for cleaning of patient rooms.
- Targeted use of Xenex UV disinfection robot at Edward Hospital
- Targeted use of Altapure peracetic acid and hydrogen peroxide fog at Elmhurst Hospital







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IT'S EVERYONE'S RESPONSIBILITY! Disinfect work surfaces and patient areas regularly. Clean spills promptly. Edward-Elmhurst

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# **Blood/Body Fluid Spill Clean Up**

To clean up a large quantity of blood or other bodily fluid follow this procedure:

- 1. Put on PPE: at a minimum a pair of gloves, but you can add gown and eye protection if needed.
- 2. Blot up the spill and dispose appropriately.
- **3**. Wipe the surface with a hospital approved disinfectant to clean the surface.
- 4. Use additional hospital approved disinfectant to disinfect the surface.





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### **Regular Trash vs. Biohazard Waste Container**

### OSHA's standards of waste disposal are:

If an article is *saturated* with blood or body fluids to the degree that you could wring it out, it is red-bag, biohazard waste.

- Dressings or other material Saturated with blood
- Paper towels or other absorbent material used to clean up large blood spills

The Biohazard symbol (at right) means potentially infectious substances are present.



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Much of what we throw away every day can go into regular trash.

- Gloves
- Isolation gowns
- Articles with spots of blood or dried blood

Be mindful to use red biohazard bags only for medical waste. Medical waste is expensive to dispose of therefore it should be used appropriately.

# **Using Sharps Safely**

Working safely in a hospital also means using and disposing of sharps safely.

- Use needle-less or safety devices whenever possible
- NEVER recap dirty needles.
- Activate the safety mechanism to cover the needle.
- Dispose of sharps safely, in securely mounted sharps containers.

Whenever a sharps container is more than 2/3 full, it should be closed securely and replaced.



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# **Sharps Safety**

Expectations for use of safety devices:

Ask about safety devices Check safety device activation Practice activating

Ultimately it is your responsibility to know how to use the device safely.







### **Bloodborne Pathogens**

**Bloodborne Pathogens** are microorganisms that may be present in blood and other body fluids, including:

- Hepatitis B → Can cause Hepatitis,
- Hepatitis C —> a serious liver disease
- HIV \_\_\_\_\_ Can cause AIDS, which compromises immunity



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- Healthcare workers MUST use safe work practices called Standard Precautions.
- Treat all blood, body fluids, non-intact skin, and mucous membranes as potentially infectious.
- OSHA's Bloodborne Pathogens Standard makes these precautions the law.
  - Please locate the Exposure Control Plan and a link to OSHA's Bloodborne Pathogens Standard on your hospital Intranet.

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# **Bloodborne Pathogen Exposures**

Bloodborne Pathogens are **NOT** easy to catch, even for healthcare workers.

You must have 'exposure' to blood or certain other body fluids that might contain the virus. This does not include sweat, which does not transmit these organisms, so casual contact cannot spread these diseases.

### An exposure could be:

- Needle stick or cut with a used needle/scalpel
- Splash of blood/body fluid to eyes, nose, mouth
- Blood/body fluid getting into non-intact skin

### In the event of an exposure, do the following:



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- If it is a needle stick or non-intact skin, clean the site.
   If it is a splash to the eyes or mucous membranes, flush with water.
- 2. Notify your supervisor or charge person.
- 3. Go immediately to Occupational Health. If it is after hours, go to the Emergency Department.

### Bloodborne Pathogen Exposure (cont'd)

You will receive a free, confidential evaluation, including any required testing or treatment.

It's important that you treat any exposure (or any on-the-job injury) seriously. If you are exposed, do not wait until the end of your shift or the next day to be seen by Occupational Health.

The CDC (Centers for Disease Control) says that if your exposure was to a patient carrying the HIV virus, you need to receive treatment within **hours** of the exposure.

If you wait a few days to be treated, it may be too late.

As quickly as possible, please report the exposure following your hospital policy.



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### **Types of Isolation Precautions**

Isolation precautions are used for patients with certain contagious or dangerous diseases.

In these situations, **Isolation Precautions** are used in addition to Standard Precautions. There are four categories of Isolation Precautions:

- Contact
- Enteric/Contact Plus
- Droplet
- Airborne



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## **Isolation Precautions**

Isolation precautions means everyone must follow the PPE requirements on the posted isolation signs.

### For Staff:

- 1. Put on PPE before entering an isolation room.
- 2. Remove the PPE:
  - Gown and gloves before leaving room
  - Eye protection and isolation mask right outside the room

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- 3. Perform hand hygiene by washing hands or using hand sanitizer before and after wearing PPE.
- Take only essential supplies into the isolation room.
- Use disposable supplies and equipment for isolation patients whenever possible.
- Disinfect any equipment taken from an isolation room before it is used on another patient.

# **Elmhurst Hospital Isolation Signs**

#### CONTACT PRECAUTIONS



Precauciones de Contacto

#### DROPLET PRECAUTIONS



Precauciones de Contaminación por Microgotas

#### **ENTERIC CONTACT** PRECAUTIONS

**NO HAND GEL** 

# WASH HANDS WITH SOAP AND WATER GOWN







BLEACH TO CLEAN

Precauciones de Contacto Entéricas

#### **AIRBORNE** PRECAUTIONS



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Precauciones de Contaminación Aérea

N95 MASK



# **Edward Hospital Isolation Signs**









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### Edward and Elmhurst Hospital Isolation Signs





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## Novel Coronavirus (COVID19)

The COVID19 pandemic has placed us in an unprecedented time.

Keeping our healthcare workers safe during the pandemic requires focus on:

- Hand hygiene
- Cleaning
- PPE
- Isolation
- Universal masking
- Social distancing

\*Please visit Esquared for the latest updates https://employee.eehealth.org/covid19



# Novel Coronavirus (COVID19)

### Signs and Symptoms:

- Fever ≥100.0°F
- Cough
- Sore throat
- Shortness of Breath
- Chills
- Headache
- Fatigue
- New loss of taste and/or smell
- Nausea, Vomiting, Diarrhea or abdominal pain
- Runny nose
- Muscle pain

Before coming to work each day monitor yourself for the signs and symptoms above.

- If you have a cough, fever or took medication to reduce a fever in the past 24 hours, stay home and call your manager and the Employee Covid Hotline.
- If you have two or more of the other above symptoms, stay home and call your manager and the Employee Covid Hotline.

### EDW COVID Hotline: (630)527-2855 ELM COVID Hotline: (331)221-8820

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### Novel Coronavirus (COVID19)

### When you get to work each day:

- Wear a cloth mask
- Go to the temperature kiosk and check your temperature
  - If reading is <a>100.0°F, go back to your car and call your manager and the Employee Covid Hotline</a>
  - If reading is 99.0 to 99.9°F, notify your manager and monitor your temperature mid-shift
  - If reading is  $\leq$  98.9°F, proceed to your area
- On clinical units, replace your cloth mask with an isolation mask for the day
- If you work in a non-clinical department and need to go to a clinical area, replace the cloth mask with an isolation mask.
- During lunch, social distance from other staff while your mask is off to eat your meal

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EDW COVID Hotline: (630)527-2855 ELM COVID Hotline: (331)221-8820

### **Tuberculosis**

**Tuberculosis** is an infectious disease that is spread from person to person through the air when a person with active TB disease coughs, talks or sneezes.

Healthcare workers are at risk for exposure to TB. If you had unprotected exposure to a TB patient, you might develop what is called a latent infection.





# **TB Infection vs. TB Disease**

### Latent TB Infection:

- TB germ in the body
- Not sick



- Not contagious, so you would not put your family, coworkers, or patients in danger
- Positive TB skin Test (TST) or blood test (Quantiferron)

### Active TB Disease:

- Positive chest xray
- Have symptoms of fever, cough, night sweats, unexplained weight loss, coughing up blood

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# **Airborne Isolation Precautions**

If a patient is identified with possible TB, we must take the following precautions.

### In the hospital:

- Airborne isolation precautions are initiated
- The patient is placed in a negative pressure room
- Staff wear N95 respirator in the room
- Enter the room from the ante room

### In outpatient offices:

- Place an isolation mask on the patient
- Close the door to the exam room
- If patient needs to be transferred, notify the receiving department



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### **N95 Respirators**

There are a number of styles of N95 masks available to use for airborne isolation. Wear the size and style that you were fit tested for.

You must be fit-tested for the N95 Respirators by Occupational Health every year. You must also perform a fit-check every time you put on a N95 respirator to ensure that you have a proper seal.

### To perform a fit-check:

- 1. Put on the mask.
- 2. Seal it tightly around your face and the bridge of your nose.
- 3. Breathe in and out, feeling for air leakage around the edges of the mask. If you feel air leaks, start the process over until you get a secure fit.

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# **TB Mask-fit Annual Requirements**

The annual TB mask-fit testing is done as an Occupational Health Requirement for employees who take care of patients in airborne isolation.

Noncompliance puts you at a great risk for exposure to TB. Failure to comply could lead to suspension and end in your termination of employment.



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Edward/Elmhurst Hospital take these measures of protection seriously.

## **TB Skin Testing Requirements**

### Background:

Historically healthcare personnel (HCP) were at increased risk of TB latent or active disease from worker related exposures.

✤ National TB rates have decreased by 73% since 1991.

### **Existing CDC guidelines:**

- ✤ All HCP will have baseline TB testing done on hire.
- Post exposure testing for those with unprotected exposure to a TB patient

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### **Updated TB Skin Testing Requirements**

### **Updated CDC guidelines:**

### **NO** annual TB testing for HCP!

- HCP with previous positive skin TST test
  - Treatment for latent disease strongly encouraged
  - May require yearly symptom evaluation if decline treatment



### Vaccinations

Receiving the influenza and Hepatitis B vaccinations are two more ways to further your protection from these illnesses.

### Influenza Vaccine

- Is a condition of employment for all employees
- Vaccine must be re-administered every year

### **Hepatitis B Vaccine**

- Offered to any employee with exposure risk
- A series of 3 vaccines given over 6 months
- Provides lifelong immunity



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# **Other Tips to Protect Yourself**

# **NEVER** eat or drink in patient care or clinical areas. **Remember:**

- High risk of contaminating food or container and risk of exposure to **YOU!**
- Food should not be stored in clinical areas or refrigerators used to store patient specimens.
- Do not apply makeup or handle contact lenses in these areas.

# Ask yourself the following questions about work areas to remind you of safe practices:

- How many people come and sit here after seeing a patient?
- Did every one of them wash their hands before sitting down?
- How many people have used the keyboard?
- Is EVERYONE cleaning surfaces in common areas and in patient rooms?
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# **Work Restriction Policy\*\*\***

# Hospital policy states that you must stay home if you have the following:

- Strep throat (until after 24 hours of antibiotics)
- Chickenpox
- Measles
- Mumps
- Pertussis
- Tuberculosis
- COVID19



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# *If you work with patients, within a patient's environment, or with their food, you must also stay home if you have the following:*

- Conjunctivitis/Pinkeye (until the symptoms resolve)
- Diarrhea or vomiting with a fever greater than 100 degrees Fahrenheit

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Acute respiratory illness with a fever

### Water Management

- Hospitals are required to have water management plans to protect patients from diseases that can spread through water, such as Legionella.
- Cities treat the water with chlorine.
- Hospitals check for changes in water quality.
- Each EEH hospital (Edward, Elmhurst, Linden Oaks) has a water management plan.
  - If you want more information about the plan, please contact the Facilities Department.

### Legionella

### Legionella grows in water that is:

- Not kept moving
- Not disinfected appropriately
- Between 77°F-108°F
- Legionella is commonly found
   Low levels in creeks, ponds, and streams
- Legionella grows and spreads in water systems

### Showers, faucets, cooling towers, decorative fountains, hot tubs



### **Legionnaires Disease**

- Legionnaires disease is caused by breathing in small droplets of water containing Legionella
- Causes respiratory illness including pneumonia
- Symptoms include:
  - Fever
  - Chills
  - Cough
  - Shortness of breath



- Some people need to be hospitalized with severe symptoms
- Not spread from person to person

### **High Risk items**

- Water features such as decorative fountains
- Whirlpool bath tubs
- Hand held shower heads
- Fish tanks
- Humidifiers
- Misters
- Hot tubs
- Ice machine
- Eyewash stations







### Water Management Plans require:

- Monitoring chlorine levels in water
- Preventing water from becoming stagnant in plumbing
  - Regularly run faucets and showers and flush toilets
  - Ensure hand held shower heads are hanging down





- Identify and maintain equipment that uses water
- Use sterile water or other solutions (not tap water) for clinical equipment and procedures
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### **Be Part of the Team**

- Ensure shower heads in the patient bathrooms are hanging down.
- If you have any equipment that uses water, follow the manufacturers Instructions For Use and cleaning instructions.
- Protect equipment and supplies from tap water contamination by keeping these items away from sinks.



### **Infection Control Commandments**

- 1. Thou shall perform hand hygiene before going into a patient room
- 2. Thou shall perform hand hygiene coming out of a patient room
- 3. Thou shall remind others to perform hand hygiene
- 4. Thou shall keep common areas clean
- 5. Thou shall clean surfaces down with Sanicloth wipes
- 6. Thou shall follow isolation precautions and wear the correct PPE
- 7. Thou shall put on the PPE before going into a patient room
- 8. Thou shall remind others to wear the PPE when they are not
- 9. Thou shall stay home when ill so the germs will stay home with thee

### And above all else:

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10. If thou follows the above commandments, the Infection Control team will be happy



## Your Infection Control Team

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### Hand Hygiene is Supported Throughout the System!







### **Questions?**

### **Contact:**

Edward Hospital Infection Control Team (630)527-3060

Elmhurst Hospital Infection Control Team (331)221-3214

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