Welcome to the COVID-19 and Cancer ECHO Series

Use the Q&A portal throughout today’s session to submit your questions! Our expert faculty will be answering your questions live.

All ECHOs take place on the Zoom platform. Review Zoom’s privacy policy at zoom.us/privacy.

This ECHO will be recorded.
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<tr>
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<td>Laura Makaroff, DO</td>
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<tr>
<td>Didactic presentation</td>
<td>F. Marc Stewart, MD</td>
<td>20 minutes</td>
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Introductions
INTRODUCTIONS

Expert faculty panel

John T. Brooks, MD
Chief Medical Officer, COVID-19 Response
Centers for Disease Control and Prevention

Lawrence N. Shulman, MD, MACP, FASCO
Professor of Medicine
Deputy Director for Clinical Services
Director, Center for Global Cancer Medicine
Abramson Cancer Center at the University of Pennsylvania

F. Marc Stewart, MD
Medical Director and Senior Vice President
Seattle Cancer Care Alliance

Thomas K. Varghese Jr. MD, MS, FACS
Executive Medical Director and Chief Value Officer
Huntsman Cancer Institute – University of Utah
Didactic presentation
Today’s presenter

F. Marc Stewart, MD
Medical Director and Senior Vice President
Seattle Cancer Care Alliance
COVID-19 and Cancer ECHO For Cancer Care Teams
F. Marc Stewart MD
NCCN Best Practices Committee
American Cancer Society

**Disease**

Coronavirus disease (COVID-19)

**Virus**

Severe acute respiratory syndrome coronavirus 2
(SARS-CoV-2)
Origin

- Animal Source: bats
- Wet market in Wuhan, China.
- ? Virology Institute in Wuhan, China.
- Carl T. Bergstrom, professor of biology at the University of Washington: "There is strong evidence that the SARS-CoV-2 coronavirus is NOT an engineered bioweapon. That said, it's important to be upfront that we do not have sufficient evidence to exclude entirely the possibility that it escaped from a research lab..."
- Transmitted by droplet, found in feces but no documentation for fecal-oral transmission.
- Persists on surfaces for hours to days. (infectivity within around 12-15 hours on copper, under 10 hours on cardboard, around 50 hours on steel and 70 hours on plastic).
- 2-14 day incubation period (average 5-6 days).

Diagnosis

- **Confirmed case SARS CoV-2**: RNA PCR lab confirmation with or without symptoms.
- **Suspect case of COVID-19**: a person with acute respiratory illness and having been in contact with confirmed or probable COVID-19 case in the last 14 days.
<table>
<thead>
<tr>
<th>Disease</th>
<th>Year</th>
<th>Extent of Spread</th>
<th>Mortality</th>
</tr>
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<tbody>
<tr>
<td>Severe Acute Respiratory Syndrome (SARS)</td>
<td>2002</td>
<td>8,000 cases</td>
<td>9.6%</td>
</tr>
<tr>
<td>Middle East Respiratory Syndrome (MERS)</td>
<td>2012</td>
<td>2,519 cases</td>
<td>34.4%</td>
</tr>
<tr>
<td>Coronavirus Disease (COVID-19)</td>
<td>2019</td>
<td>To date: 3,061,521 cases</td>
<td>2-4%</td>
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SARS-CoV & SARS-CoV-2

Attachment protein „spike“

Attachment

Activation

Inhibition

Clinically-approved medication

ACE2

TMPRSS2

Cell membrane

Host cell
Launch Particles sized at 80 to 300 microns at speeds of 50 miles an hour to 100 miles an hour

100-micron particle will sink at a rate of about one foot a second

Particles less than one micron will float indefinitely.
<table>
<thead>
<tr>
<th><strong>N95 Mask</strong></th>
<th><strong>Surgical Mask</strong></th>
<th><strong>Homemade/Cloth Mask</strong></th>
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<tbody>
<tr>
<td>Electrostatic charge</td>
<td>Non-woven material</td>
<td>Porous, woven material</td>
</tr>
<tr>
<td>Non-woven material</td>
<td>Wear in hospital care setting</td>
<td></td>
</tr>
<tr>
<td>Wear when caring for COVID+ patients</td>
<td></td>
<td>Wear in public places.</td>
</tr>
<tr>
<td>Reduces wearer’s exposure to large, intermediate and small particles (less than 100 microns)</td>
<td>Fluid resistant, protects wearer against large droplets, splashes. Protects patient from wearer’s respiratory emissions.</td>
<td>Not fluid resistant. Protects patient from wearer’s respiratory emissions.</td>
</tr>
<tr>
<td>Reusable</td>
<td>Not reusable</td>
<td>Reusable</td>
</tr>
<tr>
<td>Difficult to breathe</td>
<td>Breathable</td>
<td>Breathable, may get warm</td>
</tr>
<tr>
<td>Tight fit</td>
<td>Loose fit</td>
<td>Loose fit</td>
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</tbody>
</table>
Precautions for Public and Healthcare Workers

- Hand hygiene:
  - Wet hands
  - Wash hands for 20 sec with soap and water
  - Dry with paper towel.
  - Or use alcohol-based protection (> 60%).

- Maintain social distancing:
  - Work from home, stay home, maintain six feet;

- Avoid touching eyes, nose, mouth.

- Cover with elbow/cloth if cough or sneeze.

- Clean surfaces (counters, tables, etc.) with disinfectants, UV light.

- Clean shopping carts (packaged food likely safe).

- Wear masks in public.

- For healthcare workers, patients and family members: review proper donning techniques, proper disposal of PPE.

- Presence of Cough, fever, SOB – call early; Protect others.
Asymptomatic and Pre-symptomatic Carriers

• The median incubation period, from exposure to symptom onset, is approximately 4 to 5 days.
• 97.5% of patients who are symptomatic will have symptoms within 11.5 days after infection.
• Pre-symptomatic patients may be infectious 1 to 6 days before symptom onset.
• Just before/soon after symptom onset, patients have high nasopharyngeal viral levels, which then fall over the course of approximately 1 week.
• Patients with severe disease may shed the virus for longer periods.
“Achilles Heel”: Asymptomatic and Pre-symptomatic Carriers

- Seattle Skilled Nursing Facility
- Twenty-three days after identifying the first resident with SARS-CoV-2 infection, Facility A had a 64% prevalence of Covid-19 among residents, with a case fatality rate of 26% despite early adoption of infection-control measures.
- Covid-19 was diagnosed in 26 members of the staff (19%).
- More than half of the residents with positive tests were asymptomatic at the time of testing.
- Transmission from asymptomatic residents infected with SARS-CoV-2 most likely contributed to the rapid and extensive spread of infection to other residents and staff.
- Close quarters probably played a role.
- Symptom-based infection-control strategies were not sufficient to prevent transmission after the introduction of SARS-CoV-2 into this skilled nursing facility.

Clinical Considerations:

- Risks associated with mortality in COVID+ patients:
  - Age Distribution of COVID+ patients: Age <10=<1%, age 10-19 =8%, age 20-29 = 8%, age 30-79=87%, age >80= 3%.
  - Mortality Distribution by age: age 0-39=1%, age 40-59=8%, age 60-79=38%, age 80+=53%
  - Presence of cardiovascular disease, hypertension
  - Underlying condition: diabetes, COPD, obesity, cancer, chemotherapy, others.

- Symptoms:
  - Fever 88%, Dry Cough 67%, Fatigue 38%, Phlegm 33%, SOB 19%, Muscle pain 15%, Sore throat 14%, Headache 14%, Confusion.

- Findings:
  - Chest CT: ground glass opacities; lungs: hyaline membranes, exfoliation of pneumocytes.
  - Lymphopenia (CD4 and CD8)
  - Increased Procalcitonin may indicate superimposed bacterial infection.

- Serology for COVID-19: (documentation of immunity)

<table>
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<tr>
<th>Timing of antibody</th>
<th>Percent COVID+ pts with antibody</th>
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<tr>
<td>IgM</td>
<td>3-6 days</td>
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<td>85.4% (not recommended for acute diagnosis)</td>
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<tr>
<td>IgA</td>
<td>3-6 days</td>
</tr>
<tr>
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<td>92.7% (not recommended for acute diagnosis)</td>
</tr>
<tr>
<td>IgG</td>
<td>10-18 days</td>
</tr>
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<td>77.9% (documenting immune response)</td>
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Less Common Symptoms/Conditions:

- “Covid toes”
- Anosmia
- “Pink Eye” (follicular conjunctivitis)
- Diarrhea/nausea
- Chest pain/Myocarditis/Infarction
- Thrombosis
- Renal failure
- Guillian Barre
Patients with COVID-19

- Require Special Isolation Procedures in Hospital (COVID units, neg pressure air rooms or tents, N95 masks, gowns, gloves). On discharge from hospital or clinic COVID-19 patients should be isolated if still mildly symptomatic or SARS-CoV-2 RNA PCR+. [https://www.mskcc.org/cancer-care/patient-education/managing-covid-19-home](https://www.mskcc.org/cancer-care/patient-education/managing-covid-19-home)

- Case 1: 65 yo female admitted to a rural hospital with fever, SOB and RNA PCR+. Hospital course was uncomplicated. Has been asymptomatic for last three days. Symptoms began seven days ago. Plans to go home to live with elderly mother who requires medical care. Do we order RNA PCR nasopharyngeal test once and again at 24 hours or do we discharge without testing?

- Case 2: 46 yo asymptomatic male operating room technician tests positive for virus by RNA PCR. Your advice?

- Case 3: 57 yo male on steroids for asthma presents with fever, sore throat and tests RNA PCR+. No other infections. Symptoms resolve after one week. However, he continues to have RNA PCR + tests every other week despite resolution of symptoms. At five weeks he is still shedding virus by RNA PCR. What do you do?

- Ct value or threshold cycle 0-40: Counter-intuitively, the lower the number, the more virus a patient sample has. Any number less than 15 corresponds to very high levels of virus, whereas samples greater 35 only have low quantities of virus.
Controversies

- Do we know the true incidence and mortality of COVID-19?
  - USC and the Los Angeles Department of Public Health concluded that between 2.8% and 4.6% of the adult population in Los Angeles County has an antibody to the virus.
  - This translates to between 221,000 and 442,000 adults — an estimate that is 28 to 55 times higher than the roughly 8,000 confirmed cases that the county had in early April, when the study was conducted.
  - Stanford study: mortality rate in Santa Clara County is between 0.12% and 0.2%. (In contrast, the county's mortality rate based solely on official cases and deaths as of last Friday, April 17, was 3.9%).
  - New York (April 20) has collected around 3,000 samples from 40 locations in 19 counties across the state so far.
  - In New York City, 21% of randomly sampled people had antibodies against the coronavirus; on Long Island, 16.7% had antibodies; in Westchester and Rockland 11.7% had antibodies; rest of the state 3.6% had antibodies.

- Major criticisms: Reliability of these tests and suspicion of high false positive rate.

- How does the COVID-19 pandemic fit into the context of what we “sacrifice”?
  - 8000 persons die in the US per day.
  - 6% from accidents, 23% from heart disease, 2% from flu and pneumonia.
  - These deaths are allowed but not from coronavirus even at the cost of economic ruin for millions.

- Are other models worthy of consideration e.g., Sweden?

Palo Alto online, April 21, 2020
Jenkins HW: The lockdowns were the Black Swan WSJ April 24, 2020
Rodgers TJ: WSJ, April 26, 2020
Questions?
Waiting for the bus like a Swede

Before Corona

During Corona
Question and answer session
Use the Q&A portal to submit your questions
Are there certain types of cancer that put patients at a higher risk of contracting COVID-19 than others?
How do you decide whether to initiate a new treatment or hold off during a pandemic?
I am a breast cancer patient with a low WBC level. I am also a health care professional. When is it safe for me to see patients?
When a cancer survivor is still undergoing treatment and is working, what extra precautions should they take for home and work?
Should all survivorship programming be virtual or at least keeping survivors 6 feet apart for the near future?
What should a protocol look like for patients receiving second opinions out of our geographic area (ie. quarantine 14 days?)
What are your recommendations for what a visitor policy might look like?
How do you think COVID-19 will affect cancer centers' CoC accreditation?
What actions and recommendations do you suggest to stress the importance of preventative screening in today’s medical environment?
Why are we hearing that we will see a surge of cases in the Fall 2020?
How do you recommend we support patients during social isolation?
Use the Q&A portal to submit your questions
Wrap up
We will get started at 12:00 ET

Use the Q&A portal to submit your questions to the expert faculty

Remember, please avoid PHI/PII

This call will be recorded.

For more information and COVID-19 resources, visit:

cancer.org
nccn.org/covid-19
cdc.gov

For more about what Project ECHO is doing to respond to COVID-19, visit echo.unm.edu/covid-19
Join us this Thursday at 12:00 ET

Lawrence N. Shulman, MD, MACP, FASCO
Professor of Medicine
Deputy Director for Clinical Services
Director, Center for Global Cancer Medicine
Abramson Cancer Center at the University of Pennsylvania

Topics will include:
• How cancer patients can mitigate risk
• Potential modifications in treatment plans
• What is the reasonable timeframe to delay follow-up testing or treatment and how to guide patients?

Complete the post-survey evaluation and ask your questions of our expert faculty panel