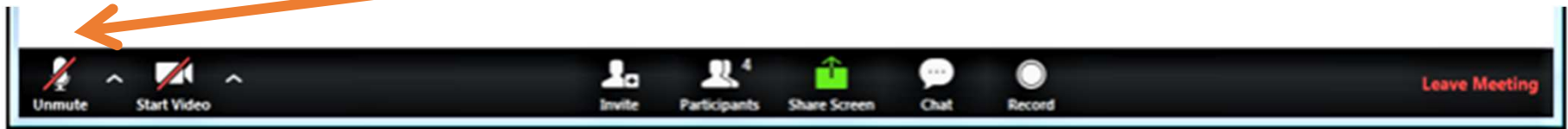


Before we start...

- Please take a moment to make sure your microphone is muted



- Let us know you are here by typing into the chat box your name, organization and email address





5 27 20

Data Sources to Help Prioritize Patient Outreach



Agenda

- COVID Member Level Data
- Provider presentation – MIS-C
- Discussion/Q&A

We are recording the session and will post it to the Colorado Access Provider Page The presentation will be emailed to participants

A photograph of a diverse family of four. A woman with long dark hair is smiling and looking down at a baby she is holding. A young girl with long dark hair is sitting next to her, also smiling and looking at the baby. A man with short dark hair and a beard is sitting to the right, looking down at the girl. The family is in a close, affectionate pose. A green horizontal bar is overlaid across the middle of the image, containing the text "Colorado Access – COVID Data".

Colorado Access – COVID Data



COVID Data File

Data includes all attributed members:

- Member ID#
- Contact Information
- COVID Risk Level Based on 19 Risk Indicators, including:
 - Age
 - Behavioral health diagnosis
 - Historical physical health information specific to COVID
 - Chronic conditions

COVID Risk Score Indicators

- Each indicator given “1” if present and sum adds up to risk score
- File filterable based on 1 or more indicators to meet practice needs

Capitated MH Diagnosis	Non-Capitated MH Diagnosis	Depression Indicator	Anxiety Indicator	COVID Older Adults Ind
Coagulation Disorder Ind	Ventilation Ind	Heart Disease Ind	Lung Disease Ind	Chronic Resp Disease Ind
Transplant Ind	Immunosuppressive Ind	Cancer Ind	Cerebrovascular Disease Ind	Hepatitis B Ind
COVID COPD Ind	Chronic Kidney Disease Ind	COVID Hypertension Ind	COVID Diabetes Ind	

We want to hear from you!

COVID Data Analysis

	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
1	Depressi on.Indica tor	Anxiety.I ndicator	COVID.OI der.Adult s.Ind	Coagulati on.Disor der.Ind	Ventilatio n.Ind	Heart.Dis ease.Ind	Lung.Dise ase.Ind	Chronic.R esp..Dise ase.Ind	Transpla nt.Ind	Immunos uppressiv e.Ind	Cancer.In d	Cerebrovas cular.Disea se.Ind	Hepatitis. B.Ind	Chronic.K idney.Dis ease.Ind	COVID.Hy pertensio n.Ind	COVID.Di abetes.In d	COVID.C OPD.Ind	COVID.Ri sk.Level	BH.Dx.Hx
2	0	0	3	0	0	1	1	1	0	0	0	1	0	0	1	0	1	13	1
3	0	0	3	1	1	1	0	1	0	0	0	1	0	1	1	0	0	12	0
4	1	1	1	0	0	1	1	1	0	0	1	0	0	0	1	1	1	11	1
5	1	1	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	11	1
6	0	1	1	1	0	1	1	1	0	0	0	0	0	1	1	1	1	11	1
7	1	1	1	1	0	1	1	0	0	0	1	1	0	0	1	0	1	10	1
8	1	1	1	0	0	1	1	1	0	0	1	1	0	0	1	0	1	10	1
9	1	1	0	1	1	1	0	1	0	0	0	0	0	1	1	1	0	10	1
10	0	0	0	1	0	1	0	1	0	0	0	1	0	0	1	1	0	10	0
11	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	9	0
12	0	0	1	0	0	1	0	1	0	0	0	1	0	1	1	0	0	9	0
13	1	1	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	9	1
14	1	0	1	0	0	1	1	1	0	0	0	0	0	0	1	1	1	9	1
15	1	0	1	0	0	1	0	1	0	0	1	0	0	1	1	1	1	9	1
16	0	0	3	0	0	1	0	0	0	0	0	1	0	0	1	1	0	8	0
17	1	0	1	0	0	1	0	1	0	0	1	0	0	1	1	0	0	8	1
18	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	8	0
19	0	0	3	0	0	1	0	1	0	0	0	1	0	0	0	0	0	8	0
20	1	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	8	1
21	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	8	1
22	1	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	1	8	1
23	0	0	1	1	0	1	0	1	0	0	0	0	0	1	1	1	0	8	0

Providers can filter through each of the different risk indicators to target their outreach

COVID Data Opportunities

Ways providers are using the data:

- An integrated FQHC combined the COVID risk score with the capitated mental health diagnosis data to increase their behavioral outreach
- An individual provider used the COVID risk score to reach out to members at high risk and message his ability to engage with them through telehealth
- Another practice combined the COVID risk score with the diabetes indicator to target those members who need continued care management for the disease



Questions: provider_engagement@coaccess.com





Dr. Suzanne Belibi – Grace Health Center

COVID-19 Patients Management

A Community Clinic Center Approach
at Grace Health Clinic(GHC), Aurora,
CO, 80014

Overview of Grace Health Clinic

- Services offered: Pediatrics, Internal Medicine, Nephrology, Addiction therapy, Allergy & Immunology
- Pharmacy on site
- Medical Supply on site (oxygen & other supplies)
- Primary care, minor urgent care and specialty care
- Established in 2010 in Aurora, Colorado

COVID-19 patients – GHC Organization of flow

- Patients are triage by phone when they call with concerns of exposure and/or covid-19 symptoms
- They are requested to wear a mask and wait in their car, then signal the staff when they arrive
- They are seen in a shed outside the clinic where the coronavirus test is performed, initial treatment given as deemed necessary
- They return home with instructions for quarantine, nutrition/hydration and re-testing

GHC COVID-19 patients Numbers

Grace Health Clinic	March 17-31	April 1-30	May 1-22
Total tests	16	125	132
Positive	3	34	31
Male	3	20	15
Female	0	10	8
Children	0	4	8
% positive	18.75%	27.2%	23.5%

COVID-19 Outcome at Grace Health Clinic

- From March 17 to May 22, 2020: 273 tests
- **68 positive tests** (overall 25%), men > women
- No death to date in our patients' population
- 2 patients were on ventilator at the hospital
- 2 patients were on home oxygen(with telehealth follow up)
- 1 patient was on oxygen at the hospital but not ventilator
- Children more likely positive when mom is positive

Pediatric Case Study #1

4y7m male w/ new onset fever for 4-5 days and vomiting

- Fever up to 104 for 4-5 days
- Vomiting, no food for 2 days, no diarrhea, +abd pain
- Very tired and confused
- Seen in ER: tylenol + Zofran given but worsening
- Only child, daycare, usually healthy – DOS 02/10/2020
- T: 102F, P: 170, BP:113/64, RR 24, SaO2 90%
- Delirium, cap refill >3 sec
- Decreased breath sounds with insp crackles at both bases
- Tachycardia, skin very warm
- Flu test negative, + protein and ketones in UA
- Dx: Pneumonia, tachycardia, hypoxemia, flu-like, shock, dehydration, vomiting, fever

Pediatric Case Study #2

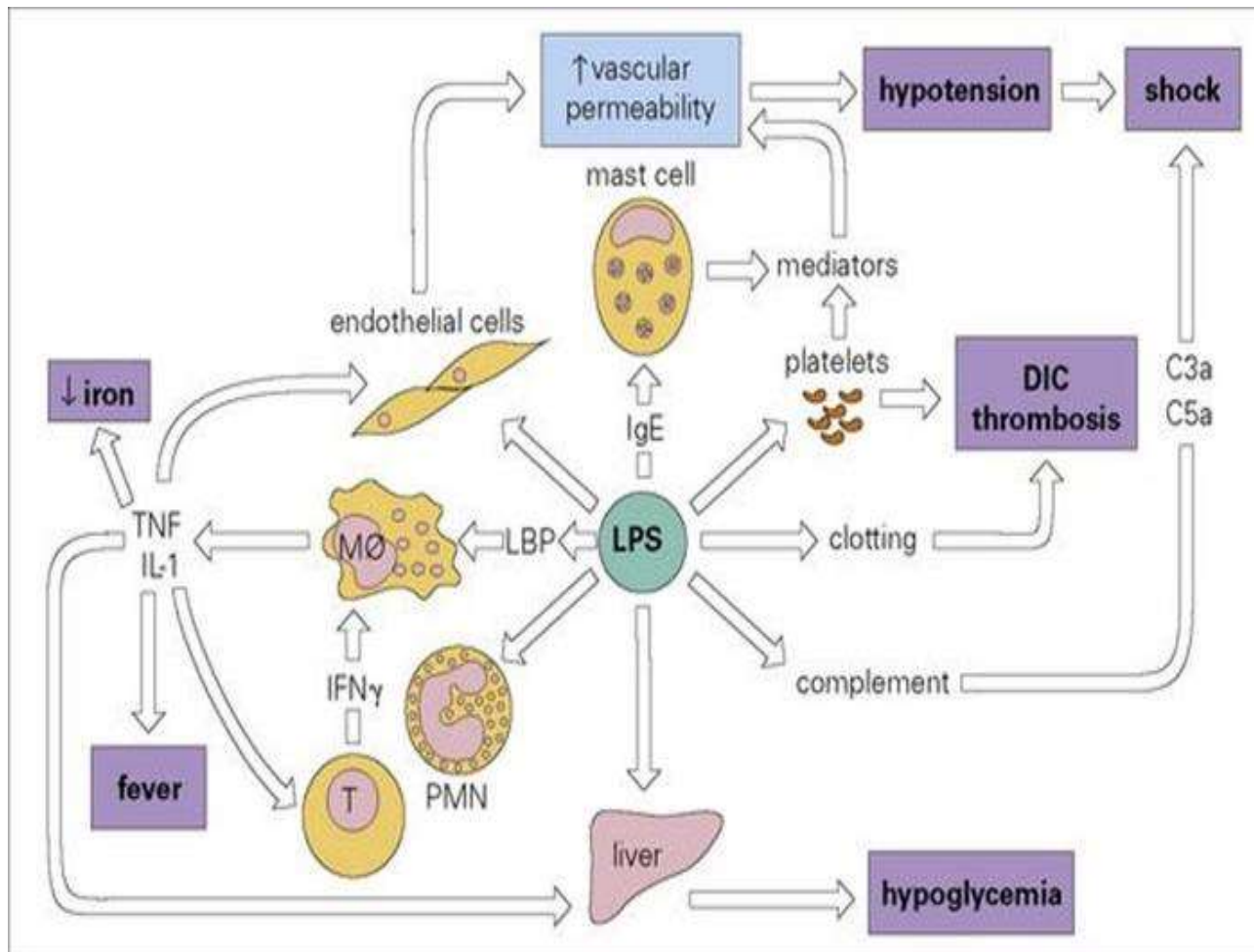
15y11m female with sudden onset of fever/chills/confusion

- HS, track athlete, healthy
DOS:03/09/2020
- Cold symptoms on/off for 10 days or so with fever(101F), headache and sore throat
- Returned from LV at around 2 AM and by 3 AM was up with extreme body heat and malaise--chills and pruritus, generalized body aches
- T: 101.9 F, BP: 95/63, P: 118, RR 20, SaO2 93%
- Erythematous eyes and skin, itching from face to abdomen, confused, nuchal rigidity, decreased breath sounds + crackles at bases, tachycardia, headache, extreme fatigue
- Rapid flu negative, covid-19 not available

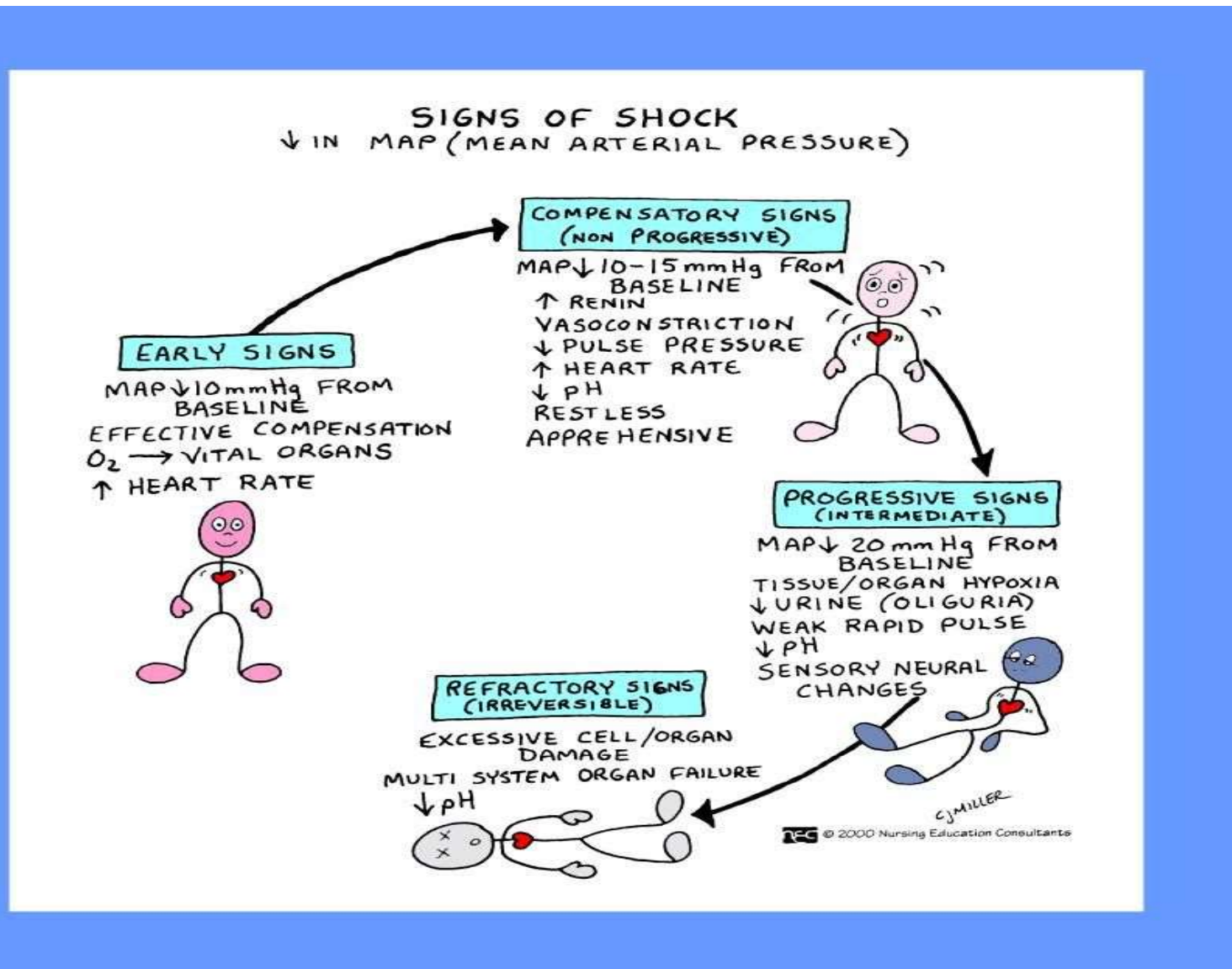
Impression: Toxic Shock vs. multi-system Inflammatory syndrome?

- Elevated Fever
- Tachycardia, hypotension
- Neurological symptoms: confusion, delirium, irritability, lethargy
- Abdominal symptoms: vomiting, abdominal pain, no appetite
- Renal: ketones, proteins
- Lungs: decreased breath sounds, hypoxemia, crackles
- Skin: erythema, pruritus
- Muscles: pain, weakness
- Upper airways symptoms
- Conjunctivitis

Toxic shock sequence(LPS=endotoxin)



Stages of Shock

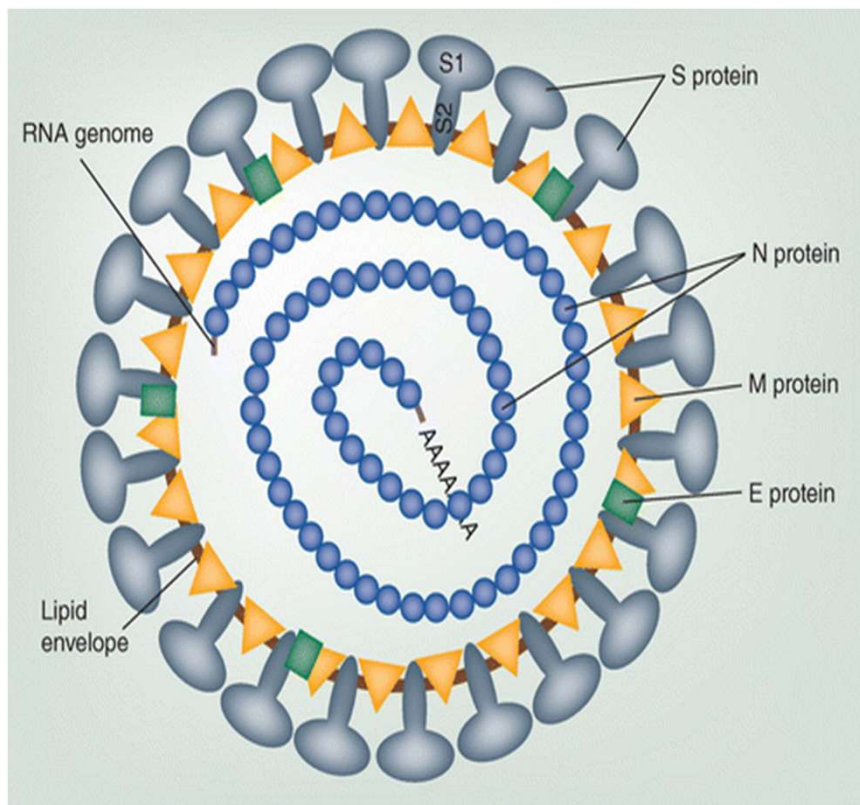


What is Covid-19 associated MIS-C?

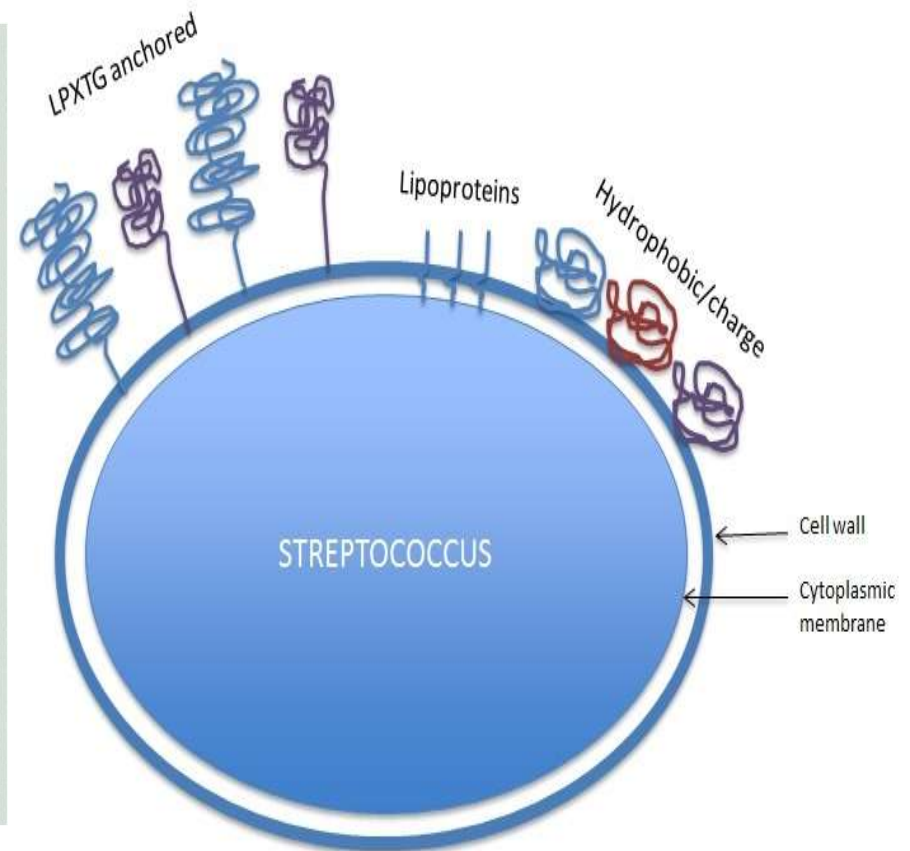
- Newly identified with overlapping signs of fever, inflammation, hypotension, and shock
- Abdominal pain, skin rash, bloodshot eyes, racing heart
- Exposure to COVID-19 in a recent past
- Mimics Kawasaki disease: fever, red eyes, red lips and tongue, rash, cardiac signs
- Usually history of mild cold symptoms days to weeks before the sudden onset of brutal symptoms and rapid deterioration

M Protein = common denominator in TSS(Staph, Strep) & MIS-C(Covid-19)

Coronavirus Membrane



Gram (+) Strep Membrane

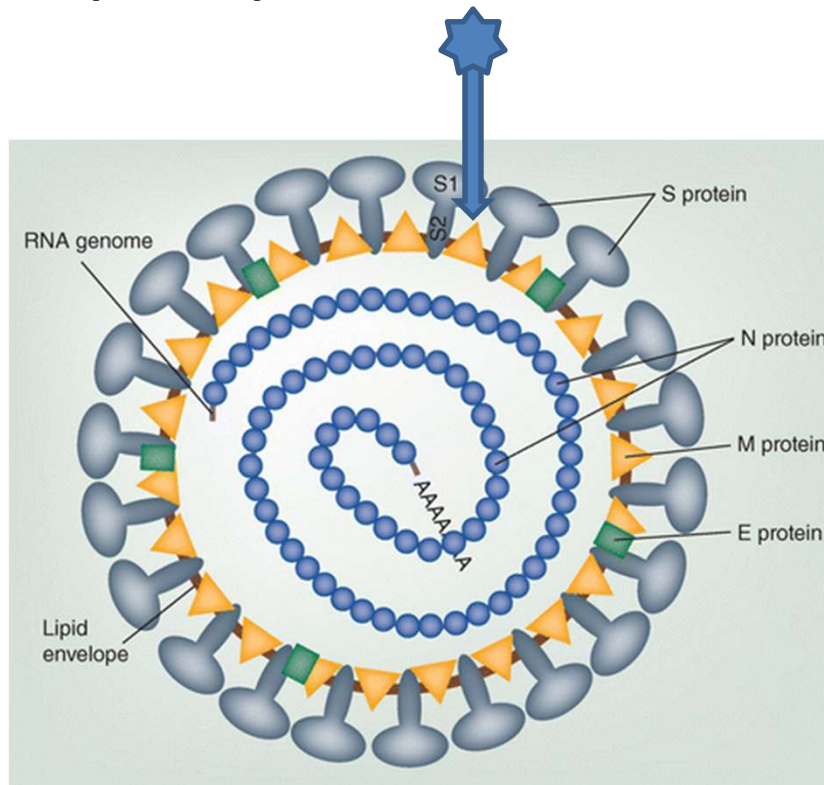


What is M Protein?

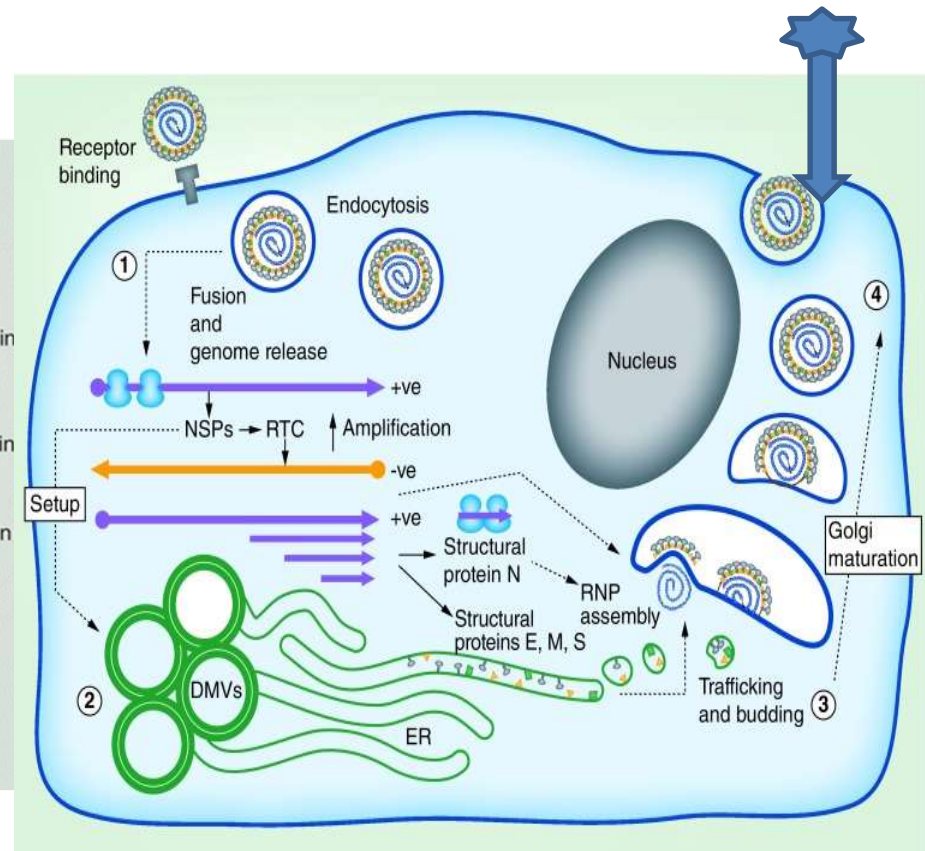
- **M protein** is a virulence factor that can be produced by certain species of streptococcus
- M protein is a membrane glycoprotein; also acts like an endotoxin type II that can overactivate the immune system quickly and cause a toxic shock
- Strongly antiphagocytic
- Coronavirus has original and mutant forms of M protein
- M protein is abundant on coronavirus' membrane and is essential for its multiplication
- M Protein's final product is processed by transpeptidase penicillin binding protein (PBP) which can be irreversibly inhibited by **Cephalosporins** thus disrupting cell wall formation and pathogen multiplication

Cephalosporin disrupts membrane formation
Tamiflu blocks budding out of the virus from host cells

Cephalosporin attacks M Protein



Tamiflu attacks neuraminidases



Pediatric cases: Treatment in clinic and outcome

Patient #1

- Ceftriaxone 2 grams IM once
- Tamiflu 75mg PO once
- Ibuprofen
- Gatorade
- Crackers
- Patient observed for 4 hours and complete recovery by the evening

Patient #2

- Ceftriaxone 2 grams IM once
- Tamiflu 75 mg PO once
- Claritin 10 mg PO once
- Ibuprofen
- Gatorade and Crackers
- Patient observed for 8 hours and complete recovery by 7 PM same day, patient ran track the next day

Covid-19 Virulence = size + membrane

Small particle size lands deep

- The small size of coronavirus particle allows it to land deep in the lower airways, not only bypassing immune protection of upper airway but it starts damaging the lungs quickly and impairs oxygen exchange to tissues

M protein → +++ Immune syst.

- M protein prevents phagocytosis and triggers more immune cells activation both T and B lymphocytes
- M protein can also act as an endotoxin and cause signs that mimic a toxic/septic shock

Covid-19 approach at GHC

- Mechanical barrier : gloves + masks(we designed waterproof masks because we could not order any kind of masks from suppliers)
- Testing for coronavirus
- Therapeutic options: pharmaceuticals +/- oxygen
- Immune system boosters: nutrition, hydration, good sleep, immunizations up to date, multivitamins, counseling, chronic conditions management(Diabetes, HBP, Obesity...)
- Quarantine for 2 weeks followed by re-testing

Possible Strategies targeting youth for the near Future

- Consider schools re-opening if we have a good understanding of disease & treatment
- Immunizations mandatory for all students especially flu shot (drive thru) all WIC offices must take walk-in patients for vaccines daily before school starts (use schools to make expectations known to families)
- Test all kids and families for coronavirus 3-4 weeks before school starts and provide results cards – quarantine as necessary
- Use infrared thermometers at schools entrance and masks for everyone
- Use sneeze protectors for front office
- Teachers must wear gloves and personal sneeze protectors
- Increase cleaning crews (job creation)
- Have coronavirus tests, Rocephin & Tamiflu at nurses' offices plus separate room for ill students + tracing follow up

Thank You!

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Wikipedia



Questions and Answers

