

WEBINAR

# BLEEDING DISORDERS AND COVID-19

THE FACTS AND RISKS TO PERSONS  
WITH BLEEDING DISORDERS



Glenn Pierce, MD, PhD

Flora Peyvandi, MD, PhD

Magdy El Ekiaby, MD

Cedric Hermans, MD, PhD

Radoslaw Kaczmarek, PhD

Thursday, 9 April 2020



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



# SPEAKERS & PANELISTS

---



Glenn Pierce,  
MD, PhD



Flora Peyvandi  
MD, PhD



Magdy El Ekiaby  
MD



Cedric Hermans  
MD, PhD



Radoslaw Kaczmarek  
PhD



**WFH**  
WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

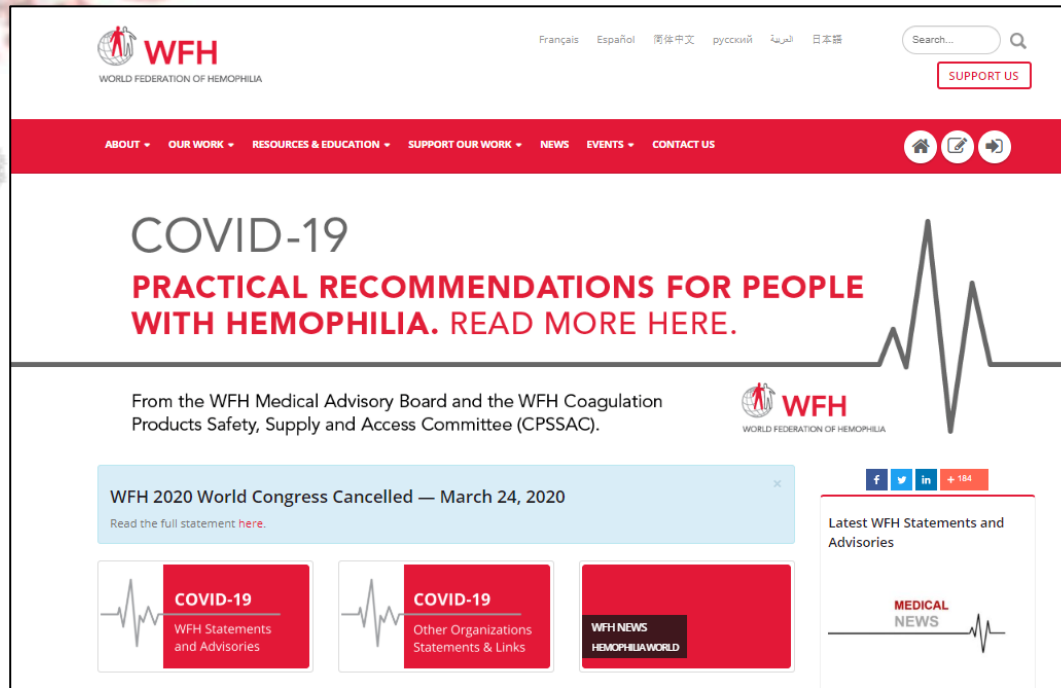


# AGENDA

---

- The facts and risks to persons with bleeding disorders  
*Glenn Pierce, MD, PhD*
- The clinical picture from the front lines  
*Flora Peyvandi, MD, PhD*
- Preparations in Egypt and similar countries  
*Magdy El Ekiaby, MD*
- Questions & answers period  
*Speakers and Cedric Hermans, MD, PhD, Radoslaw Kaczmarek, PhD*

# WFH COVID-19 STATEMENTS



The screenshot shows the WFH website with a red header and navigation menu. The main content area features a large heading "COVID-19" followed by "PRACTICAL RECOMMENDATIONS FOR PEOPLE WITH HEMOPHILIA. READ MORE HERE." Below this, there is a text block from the WFH Medical Advisory Board and the CPSSAC. A blue notification box states "WFH 2020 World Congress Cancelled — March 24, 2020". At the bottom, there are three red buttons: "COVID-19 WFH Statements and Advisories", "COVID-19 Other Organizations Statements & Links", and "WFH NEWS HEMOPHILIAWORLD". A "MEDICAL NEWS" section is also visible on the right.

- Practical recommendations
- Specific risks of COVID-19
- Humanitarian aid news
- Company statements

## Specific Risks of COVID-19 to the Bleeding Disorders Community

World Federation of Hemophilia - April 2, 2020  
Also available in: [Español](#), [Français](#)

WFH 9 April 2020

<https://www.wfh.org/en/home>



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOPHILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA





# WFH AND ISTH WEBINARS

**WEBINAR**

## BLEEDING DISORDERS AND COVID-19

THE FACTS AND RISKS TO PERSONS WITH BLEEDING DISORDERS




DATE: April 9th, 2020  
TIME: 10am EDT  
DURATION: 1 hour

[REGISTER HERE](#)

Submit your questions no later than April 7th at [research@wfh.org](mailto:research@wfh.org)  
*We are looking forward to connecting!*





WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOPHILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



**Register Now For This Upcoming Webinar:**  
**Thrombosis, Thromboprophylaxis, and Coagulopathy in COVID-19 Infections**

APRIL 9, 2020  
Thrombosis, Thromboprophylaxis and Coagulopathy in COVID-19 Infections



Beverley Hunt  
Marcel Levi

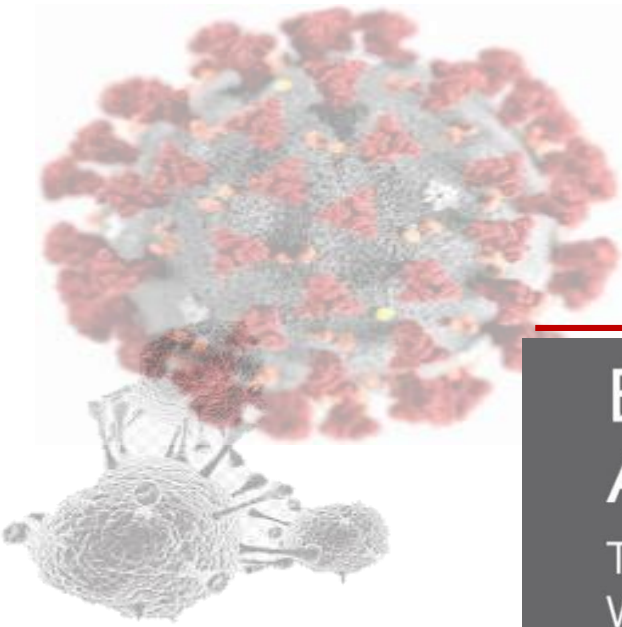
**WEBINAR**

**Register and join us** on April 9 at 14:00 UTC/GMT (10:00 EDT) for this live webinar on thrombosis, thromboprophylaxis, and coagulopathy in COVID-19 infections.

**Both webinars will be recorded.**  
**The WFH Webinar will be available on the WFH website. Translations will be available soon.**



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOPHILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



# ASKING A QUESTION

## BLEEDING DISORDERS AND COVID-19

THE FACTS AND RISKS TO PERSONS  
WITH BLEEDING DISORDERS



Glenn Pierce, MD, PhD  
Flora Peyvandi, MD  
Magdy El Ekiaby, MD  
Cedric Hermans, MD  
Radoslaw Kaczmarek, PhD

Thursday, 9 April 2020



Audio Settings ^



Chat



Raise Hand



Q&A

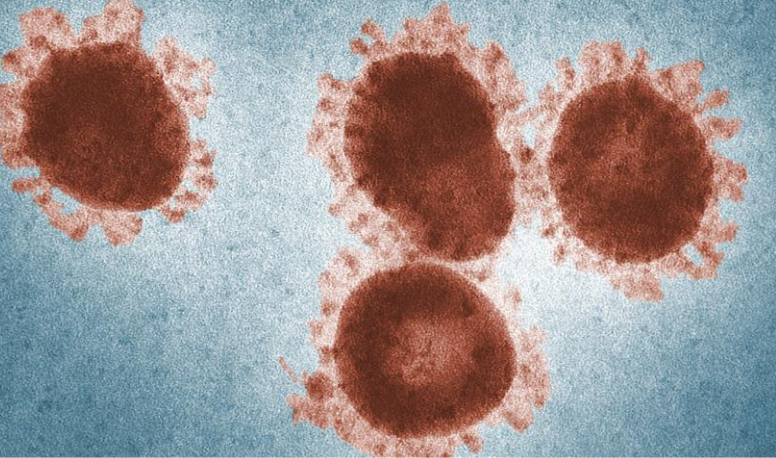
Leave Meeting

If you have not sent your question to [research@wfh.org](mailto:research@wfh.org), you can ask a question in the Question & Answers section.

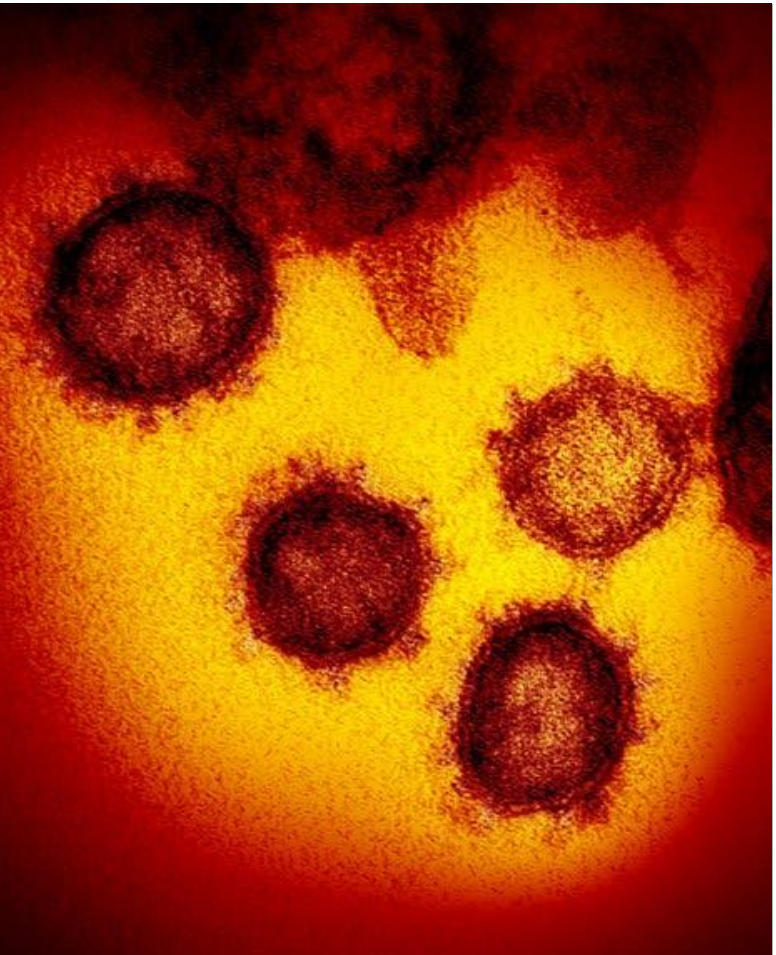
We will address as many questions as time allows.



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



FRED MURPHY, SYLVIA WHITFIELD/CDC



# THE FACTS AND RISKS TO PERSONS WITH BLEEDING DISORDERS

GLENN PIERCE, MD, PhD  
Vice President, Medical,  
WFH  
La Jolla, California, USA



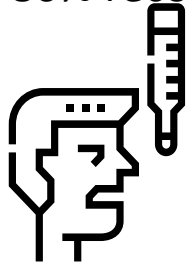
WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



# What We Know



- COVID-19 caused by recently found SARS-CoV-2 (or coronavirus). First known outbreak originated in Wuhan, China December 2019
- Related to SARS-CoV-1 and MERS, and coronaviruses that cause the cold and flu
- Symptoms **appear 2-14 days** post-exposure; **~20% or more asymptomatic**
- ~80% recover without treatment; 20% hospitalized; ~5% need ventilator/ICU; ~2% mortality



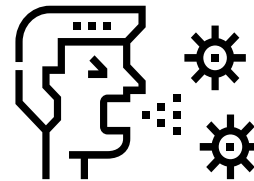
## HIGH FEVER

The body temperature can exceed 37.3 Celsius degrees or 99 Fahrenheit degrees



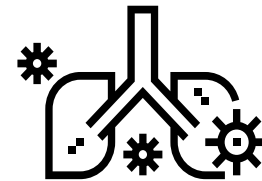
## TIREDNESS

The body feels completely tired and without energy to perform normal tasks



## DRY COUGH

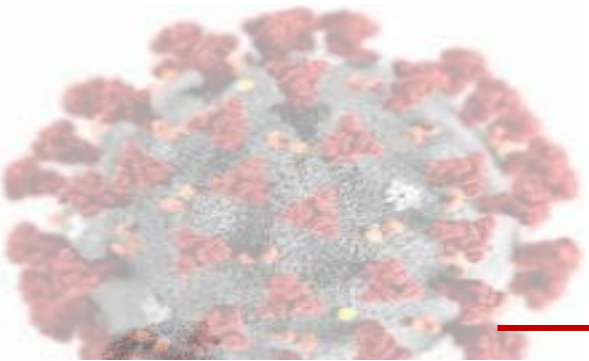
Irritation and constant coughing without expelling any mucus



## DIFFICULTY BREATHING

In severe disease, pneumonia develops, D-dimers elevated, ARDS and DIC may develop

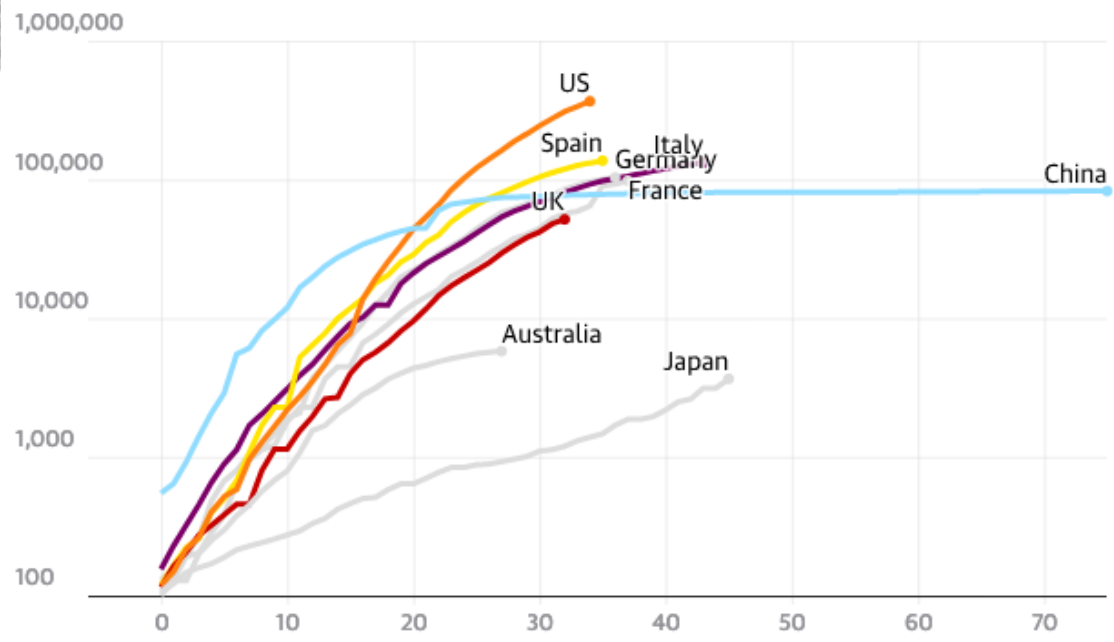




# Snapshot of the Global Pandemic

## Confirmed cases of Covid-19 for selected countries

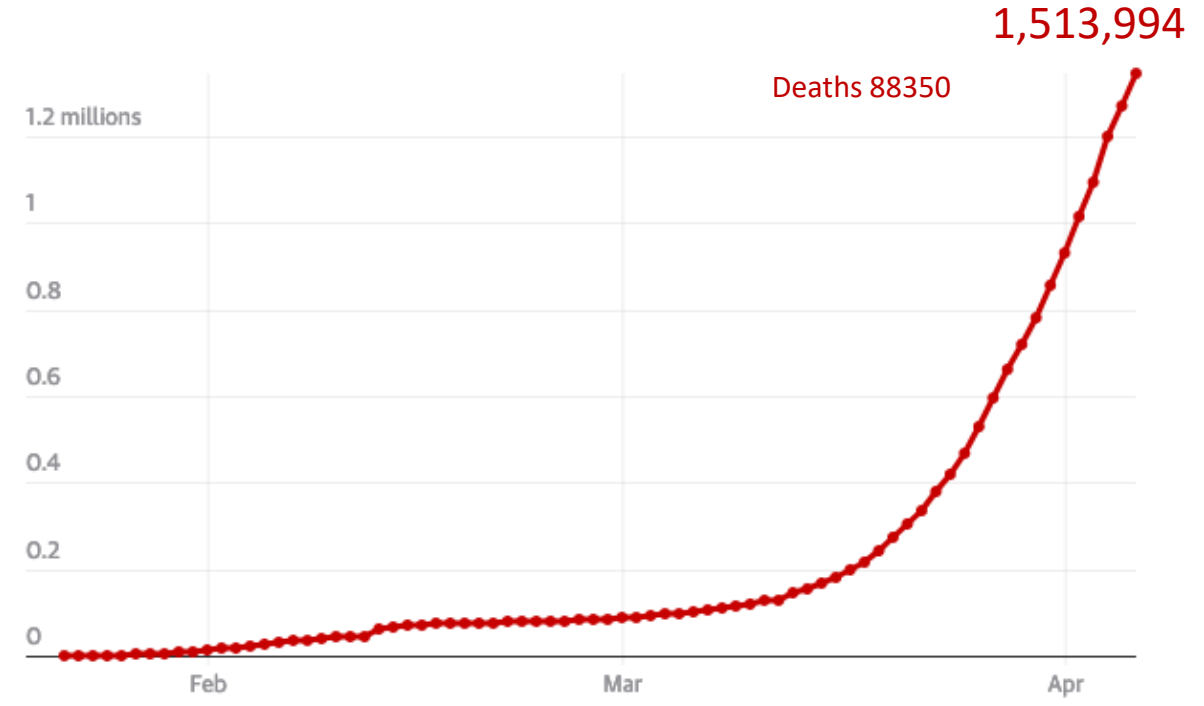
Showing the number of cases since the day of the 100th case, using a log scale.  
Data correct at 23.59 UTC 6 April



Source: Johns Hopkins CSSE Note: The CSSE states that its numbers rely upon publicly available data from multiple

## Confirmed cases of Covid-19

Data correct at 23.59 UTC 8 April



Source: Johns Hopkins CSSE Note: The CSSE states that its numbers rely upon publicly available data from multiple

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/>  
<https://coronavirus.jhu.edu/map.html>  
WFH 9 April 2020





# COVID-19 Pandemic: Practical Recommendations for People with Hemophilia

---

- **For PWH currently treated with standard or extended recombinant half-life FVIII or FIX concentrates, FEIBA, FVIIa, or emicizumab:**
- **No reason** to change treatment regimen
- **No reason** to fear shortage of treatment supplies, manufacturing issues or interruption in the supply chain
- **Contact HTC** if stock at home or at hospital is limited
- If you treat at home, a few extra doses for home use in case of delivery delays or disruptions.



## For PWH treated with plasma-derived FVIII/FIX

---

- Viral inactivation and elimination procedures employed **sufficient to destroy** lipid-enveloped viruses like SARS-CoV-2
- **Maintain treatment regimen**
- No supply disruptions in plasma-derived product. Decrease in plasma collections at front end of the 6-9 month plasma-derived product production
- Blood and plasma donations are a safe process, and **need is high**
- All HTC and blood and plasma collection centres follow guidelines to protect personnel and donors to prevent the spread of SARS-CoV-2 via respiratory droplets and fomites
- If blood-derived products **not virally inactivated** (e.g., cryoprecipitate, platelets), base treatment decisions on **clinical risk/benefit** analysis balancing safety of not treating a bleeding event and residual risk of acquiring infection



# EMERGING INFECTIOUS DISEASES®

ISSN: 1080-6059

[EID Journal](#) > [Volume 26](#) > [Early Release](#) > [Main Article](#)



*Disclaimer: Early release articles are not considered as final versions. Any changes will be reflected in the online version in the month the article is officially released.*

Volume 26, Number 7—July 2020

*Research Letter*

## Severe Acute Respiratory Syndrome Coronavirus 2 RNA Detected in Blood Donations

Le Chang<sup>1</sup>, Lei Zhao<sup>1</sup>, Huafei Gong, Lunan Wang✉, and Lan Wang✉

Author affiliations: National Center for Clinical Laboratories, Beijing Hospital, National Center of Gerontology; Institute of Geriatric Medicine, Chinese Academy of Medical Sciences, Beijing, China (L. Chang, Lunan Wang); Blood Center, Wuhan, China (L. Zhao, Lan Wang); Shanghai Haoyuan Biotech Co., Ltd, Shanghai, China (H. Gong); Peking Union Medical College Graduate School, Chinese Academy of Medical Sciences, Beijing (Lunan Wang)

### On This Page

[Research Letter](#)

[Suggested Citation](#)

[https://wwwnc.cdc.gov/eid/article/26/7/20-0839\\_article?deliveryName=USCDC\\_333-DM25050](https://wwwnc.cdc.gov/eid/article/26/7/20-0839_article?deliveryName=USCDC_333-DM25050)

WFH 9 April 2020



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



## For PWH currently in clinical trials

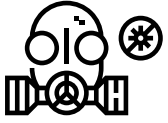
---

- **Contact your HTC** to discuss implications of the pandemic
- Ensure availability of study drugs and that the treatment is not interrupted
- Discuss follow-up/monitoring with an HTC study team. **Remote follow-up** visits strongly encouraged
- If on gene therapy trial ( $\leq 12$  months after infusion), scheduled liver function testing remains a priority for safety and efficacy
- Do not discontinue or switch treatment if receiving a clinical trial drug unless directed by the study team
- **For PWH who are scheduled to be enrolled in a trial testing a new treatment**
- **Postponement** should be discussed with the study team
- Many medical centres have banned initiation of new clinical trials to deal with the pandemic
- **Sponsors** should proactively discuss options with clinical sites



# Specific measures to reduce exposure of SARS-CoV-2 in PWH

---

- People with bleeding disorders and **comorbidities** (cardiovascular disease, hypertension, obesity, diabetes, HIV, old age), or on steroids or other powerful immunosuppressant drugs are especially vulnerable
- **Avoid exposure** to everyone, including lower risk individuals and children, is the single most important precaution to avoid infection. Sheltering in place and social distancing are the most important tools
- Proportion of **infectious but asymptomatic** people uncertain, but may be 20% or more. If going into closed space, appropriate masks are essential (**N/KN95>surgical>cloth**)
- Minimize visits to hospitals or doctor offices
- Paracetamol (acetaminophen) reduces fever without inhibiting inflammatory response needed to fight coronavirus, recommended for persons with bleeding disorders
  - Paracetamol (acetaminophen) should not exceed 60mg/kg/day or 3g/day
- Remember, frequent 20 second hand washing with soap, avoid face, don't aerosolize cough, and maintain 2 metres (6 feet) distance: **key to prevent transmission**

<https://news.wfh.org/covid-19-coronavirus-disease-2019-pandemic-caused-by-sars-cov-2-practical-recommendations-for-hemophilia-patients/>

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html>

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirators.html>

WFH 9 April 2020



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

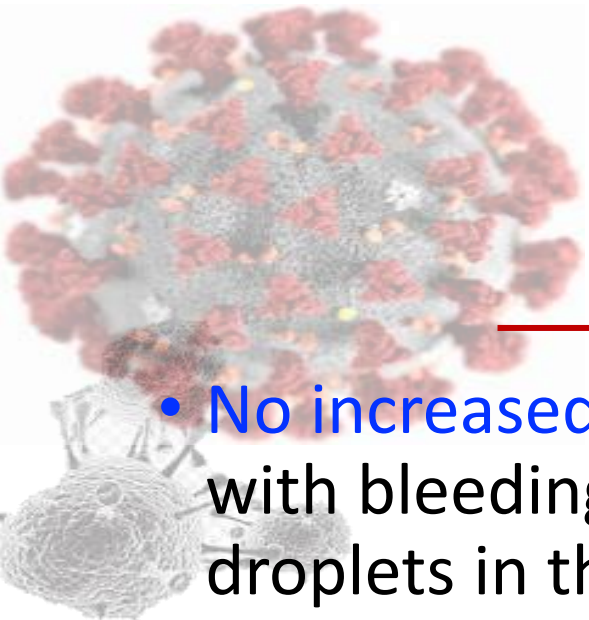




## If hospitalized with COVID-19 infection

---

- Good **liaison** between the hospital where patient is admitted and the HTC
- Arrange replacement therapy
- **Inform** team taking emicizumab (risk of mis-interpretation of hemostasis lab tests)
- **Inform** if you are part of an ongoing experimental treatment with rebalancing agents (anti-TFPI and fitusiran) and you have a risk of thrombosis or other clotting system imbalances, or you've undergone a recent treatment with gene therapy. **HTC involvement is critical**
- If you have COVID-19 infection, increased prophylaxis and clotting factor levels as precaution against bleeding from potentially severe damage inflicted by SARS-CoV-2



## Risks of acquiring SARS-CoV-2 (the virus) and COVID-19 (the disease)

---

- **No increased susceptibility** to infection in immunocompetent persons with bleeding disorders. SARS-CoV-2 passed primarily through droplets in the air coming from infected persons and fomites.
- If infected, immunocompromised people at greater risk for severe disease. For **HIV**, that includes:
  - low CD4 T-cell count (e.g., <200)
  - People not on antiretroviral HIV treatment
  - With other underlying diseases associated with severe COVID-19

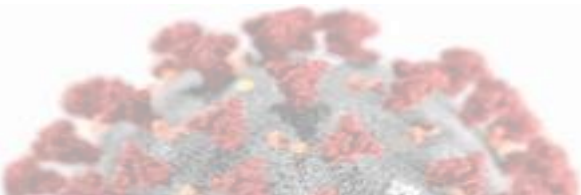


# Risks if COVID-19 infection with a bleeding disorder

---

- **Risk factors** include hypertension, diabetes, cardiovascular disease, and immunosuppression. Current evidence does not support changes in the management of hypertension
- <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html>
- As COVID-19 progresses, coagulation pathways activated as part of the host inflammatory response to limit infection. **D-dimers elevated** in many hospitalized COVID-19 patients.
- Further progression- disseminated intravascular coagulation (**DIC**), high mortality. Part of systemic inflammatory response to both virus and damaged tissue
- **Close monitoring** for bleeding and thrombosis if DIC. If observed, report
- Anticoagulants (e.g., low molecular weight heparin, LMWH) recommended for some patients with elevated D-dimers and severe infection. **Use of anticoagulants** should be accompanied by factor replacement therapy





# COVID-19 Coagulopathy

Received: 13 February 2020 | Accepted: 18 February 2020

DOI: 10.1111/jth.14768

## BRIEF REPORT

### Abnormal coagulation parameters are associated with poor prognosis in patients with novel coronavirus pneumonia

Ning Tang<sup>1</sup> | Dengju Li<sup>2</sup> | Xiong Wang<sup>1</sup> | Ziyong Sun<sup>1</sup>

<sup>1</sup>Department of Clinical Laboratory, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

<sup>2</sup>Department of Hematology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

#### Abstract

**Background:** In the recent outbreak of novel coronavirus infection in Wuhan, China, significantly abnormal coagulation parameters in severe novel coronavirus pneumonia (NCP) cases were a concern.

**Objectives:** To describe the coagulation feature of patients with NCP.

**Results:** The overall mortality was 11.5%, the non-survivors revealed significantly higher D-dimer and fibrin degradation product (FDP) levels, longer prothrombin time and activated partial thromboplastin time compared to survivors on admission ( $P < .05$ ); 71.4% of non-survivors and 0.6% survivors met the criteria of disseminated intravascular coagulation....

jth



ORIGINAL ARTICLE | [Free Access](#)

### Anticoagulant treatment is associated with decreased mortality in severe coronavirus disease 2019 patients with coagulopathy

Ning Tang, Huan Bai, Xing Chen, Jiale Gong, Dengju Li, Ziyong Sun ✉

First published: 27 March 2020 | <https://doi.org/10.1111/jth.14817>

Anticoagulant therapy mainly with LMWH appears to be associated with better prognosis in severe COVID-19 patients meeting SIC criteria or with markedly elevated D-dimer.





# Non-factor replacement therapies

---

- Risk of thrombotic complications with non-factor replacement therapies including emicizumab or other investigational agents (e.g. fitusiran, anti-TFPI) is **unknown** in COVID-19
- In individuals receiving emicizumab, how the drug may interact with COVID-19 coagulopathy requires close monitoring for thrombosis
- Prophylaxis should be continued with emicizumab
- Patients should be assessed for need for additional clotting factor replacement therapy
- Anticoagulants may be considered as per recommended treatment protocols
- In patients with FVIII inhibitors receiving emicizumab, **extra precautions** if aPCC needed due to the known drug-drug interaction
- Investigational agents: **Speak with study sponsor**



# Bleeding disorders are not co-morbidities in severe COVID-19

---

- Patients with bleeding disorders of all severities and COVID-19 should be eligible for all available therapies required depending on their condition (e.g., ventilation support, ECMO, hemofiltration)
- Having hemophilia **should not exclude** individuals from invasive management of COVID-19

Haemophilia

The Official Journal of the  
World Federation of Hemophilia,  
European Association for Haemophilia and  
Allied Disorders and the Hemostasis &  
Thrombosis Research Society



EDITORIAL |  [Free Access](#) |

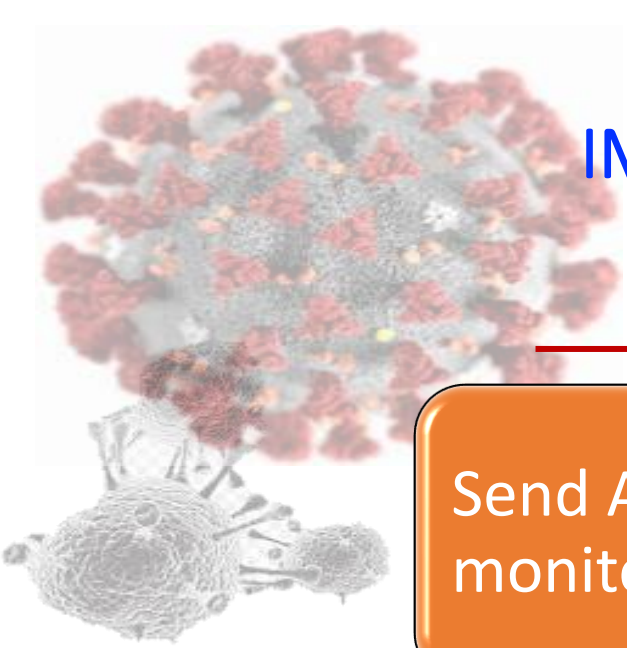
## The COVID-19 Pandemic: New Global Challenges for the Hemophilia Community

Cedric Hermans , Alain Weill, Glenn F. Pierce

First published: 04 April 2020 | <https://doi.org/10.1111/hae.14001>  
WFH 9 April 2020



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOPHILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



# WFH Humanitarian Aid program

## IMMEDIATE preventive measures implemented 1 April 2020

Closed airports, disrupted supply lines

Send ASAP an email/letter to all recipient countries to monitor and better control their existing stock.

Suggest to stop ITI, elective surgery, prophylaxis for adults and then children till further notice, to preserve stock.

Increase, where possible, donations to all countries in order to build or maintain stock.





# Avoid this infection

---

- Hygienic protocols
  - Handwashing frequently
  - Don't touch face
  - Consider surfaces as potentially contaminated
- Gloves as needed
- Face masks whenever in closed spaces outside home
- Health-care providers- please be careful and thank you!

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>

<https://www.nytimes.com/article/coronavirus-homemade-mask-material-DIY-face-mask-ppe.html?referringSource=articleShare>

<https://www.nytimes.com/article/coronavirus-N95-mask-DIY-face-mask-health.html?action=click&module=moreIn&pgtype=Article&region=Footer>

WFH 9 April 2020



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

# COVID-19 CLINICAL CHARACTERISTICS, DIAGNOSIS AND TREATMENT

FLORA PEYVANDI MD,PHD  
ANGELO BIANCHI BONOMI  
HEMOPHILIA AND THROMBOSIS CENTRE - IRCCS  
POLICLINIC  
UNIVERSITY OF MILAN  
ITALY



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

# AGENDA

---

1. COVID19: Transmission and clinical presentation
2. Diagnosis
3. Treatment



# COVID-19

---

## December 2019:

- Chinese scientists identified a **novel coronavirus** as the main causative agent of an acute respiratory syndrome in Wuhan City (SARS-CoV-2), previously known as 2019-nCoV
- It rapidly spread, resulting in an epidemic throughout China, with sporadic cases reported globally

## February 2020:

- WHO designated the disease coronavirus disease 2019 (COVID-19)

## March 2020:

WHO announces COVID-19 outbreak a **pandemic**



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



---

# Understanding of COVID-19 is evolving



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

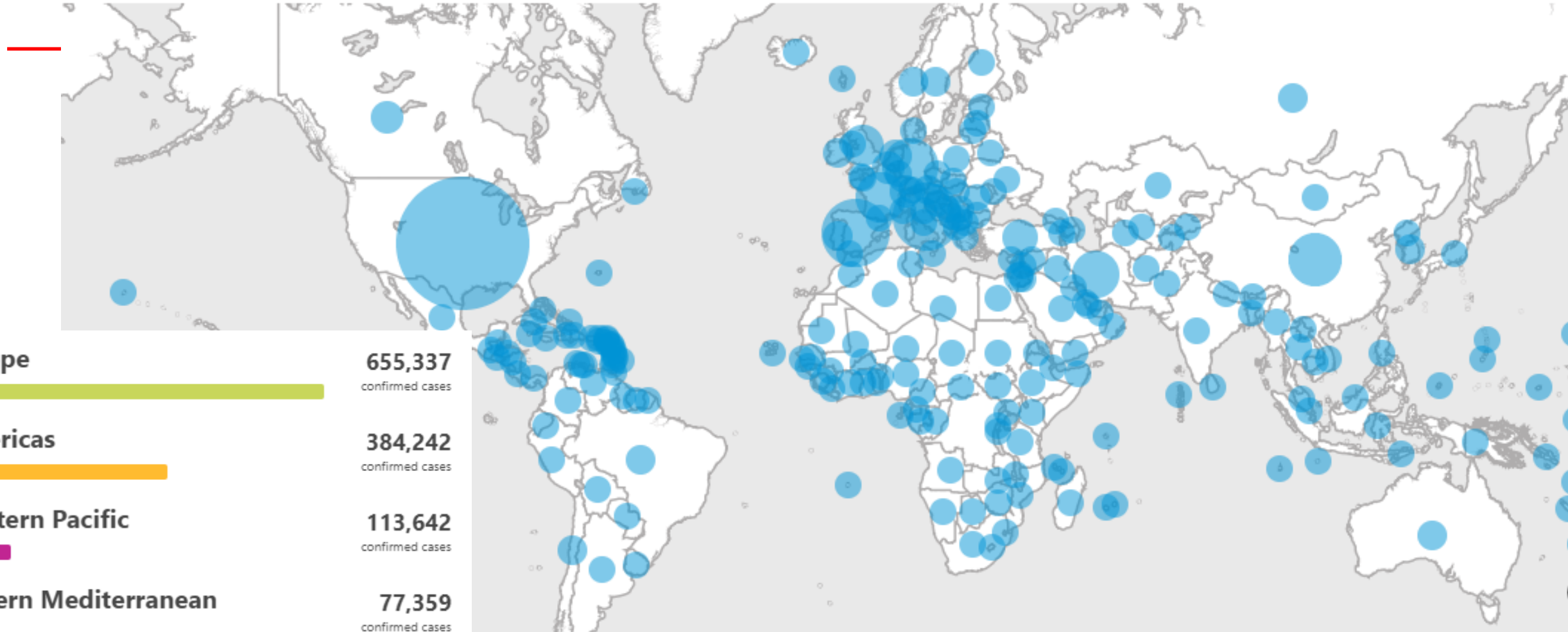
# Epidemiology

---

- Globally more than a milion confirmed cases of COVID-19 have been reported
- Coronavirus disease (COVID-19) represents global public health concern and WHO declares public health emergency
- Special attention is necessary to protect or reduce transmission in susceptible populations



# Global numbers of COVID19 by World Health Organization (April 7<sup>th</sup>)



Europe

655,337  
confirmed cases

Americas

384,242  
confirmed cases

Western Pacific

113,642  
confirmed cases

Eastern Mediterranean

77,359  
confirmed cases

South-East Asia

9,132  
confirmed cases

Africa

6,818  
confirmed cases

<https://www.who.int/>



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



The situation in Italy: 7 April 2020 time 18.00

POSITIVE CASES

DEATHS

RECOVERED

**94067**

**17127**

**24392**

<http://www.salute.gov.it/>



**WFH**

WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOPHILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

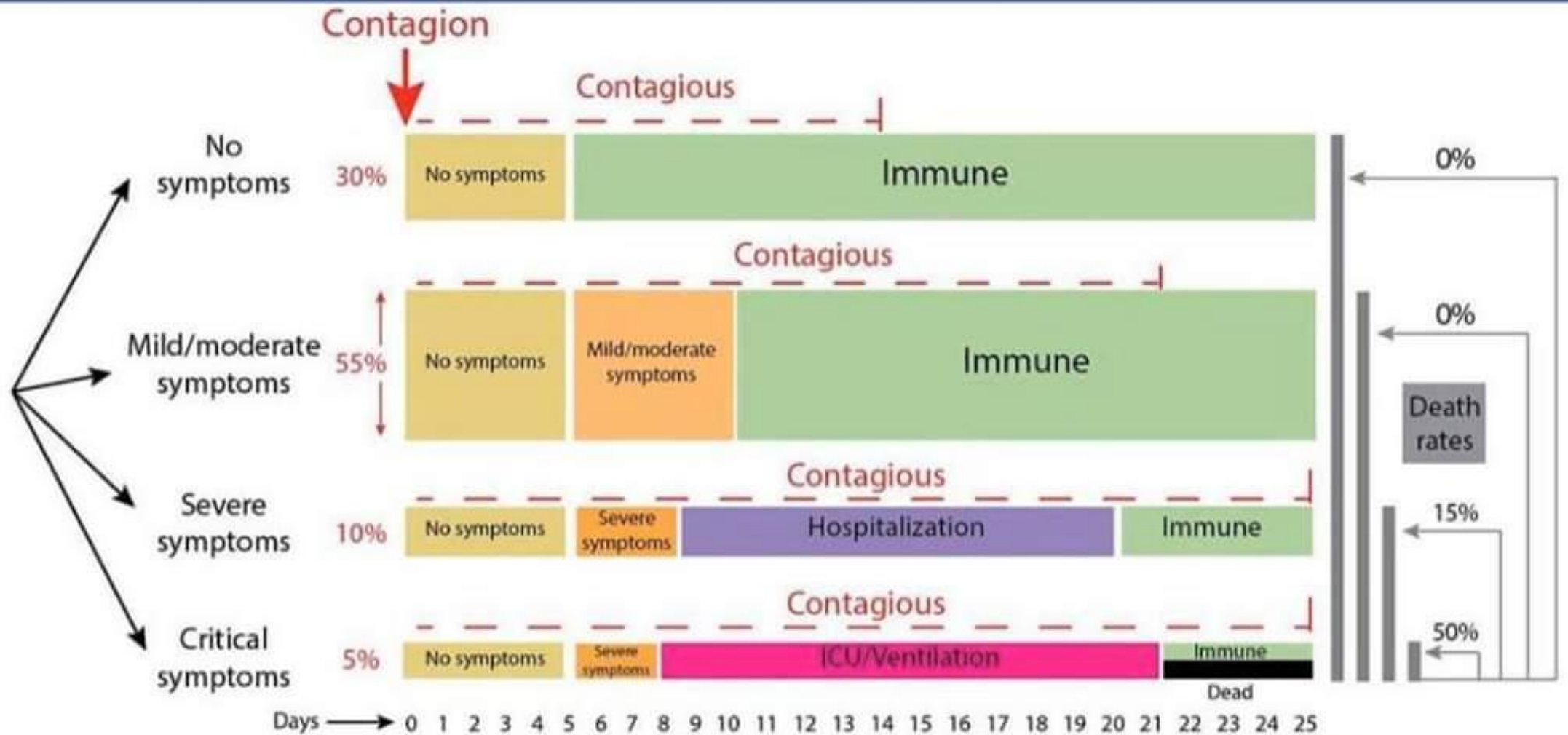


# Transmission

---

- **COVID19 person-to-person** spread is thought to occur mainly via **respiratory droplets and close contact** , resembling the spread of influenza
- Transmission of COVID-19 could occur also with **asymptomatic individuals** (or individuals within the incubation period)
- The **incubation period** for COVID-19 is thought to be **within 14 days** following exposure, with most cases occurring approximately five days after exposure





References:

1. The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application. Lauer SA et al. Ann Intern Med. 2020 Mar 10.
2. Impact of non-pharmaceutical interventions (NPIs) to reduce COVID19 mortality and healthcare demand. Neil M Ferguson et al. Imperial College COVID-19 Response Team. 16 March 2020.
3. Viral dynamics in mild and severe cases of Covid-19. Yang Liu et al. The Lancet, March 19, 2020.

# Clinical presentation

---

- **Most infections are not severe**, although many patients have had critical illness
- **Pneumonia** appears to be the most frequent serious manifestation of infection, characterized primarily by **fever, cough, dyspnea, and bilateral infiltrates on chest imaging**
- The **overall case-fatality rate reported to be 2.3 percent**
- No deaths were reported among non-critical cases



# Clinical presentation

---

- As disease progressed, a series of complications tend to develop, especially in critically ill patients.
- Pathological findings showed representative features of acute respiratory distress syndrome and involvement of multiple organs





# Comorbidities

---

Comorbidities that have been associated with severe illness and mortality include

- **Cardiovascular disease**
- **Diabetes mellitus**
- **Hypertension**
- Chronic lung disease
- Cancer
- Chronic kidney disease



# Laboratory

---

- **The white blood cell count can vary:** leukopenia, leukocytosis, and lymphopenia have been reported, although **lymphopenia** appears most common
- **Elevated aminotransferase** levels have also been described
- On admission, many patients with pneumonia have **normal serum procalcitonin levels**. However, in those requiring intensive care unit (ICU) care, they are more likely to be elevated
- Laboratory markers indicating increased inflammation and clotting activation as **high d-dimer, decreased platelet count, and PT prolongation** have negative prognostic value
- In our experience patients affected with COVID have hypercoagulability which differs from DIC and requires further investigation



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

# Diagnosis: test for SARS-CoV-2

---

- In the US, the CDC recommends collection of specimens from:
  - the upper respiratory tract (nasopharyngeal and oropharyngeal swab)
  - the lower respiratory tract (sputum, tracheal aspirate, or bronchoalveolar lavage)
- SARS-CoV-2 **RNA is detected by polymerase chain reaction**
- A positive test confirms the diagnosis of COVID-19

If initial testing is negative but the suspicion for COVID-19 remains, the WHO recommends resampling and testing from multiple respiratory tract sites

Negative RT-PCR tests on oropharyngeal swabs despite CT findings suggestive of viral pneumonia have been reported in some patients who ultimately tested positive for SARS-CoV-2

# Performance of COVID-19 RT-PCR?

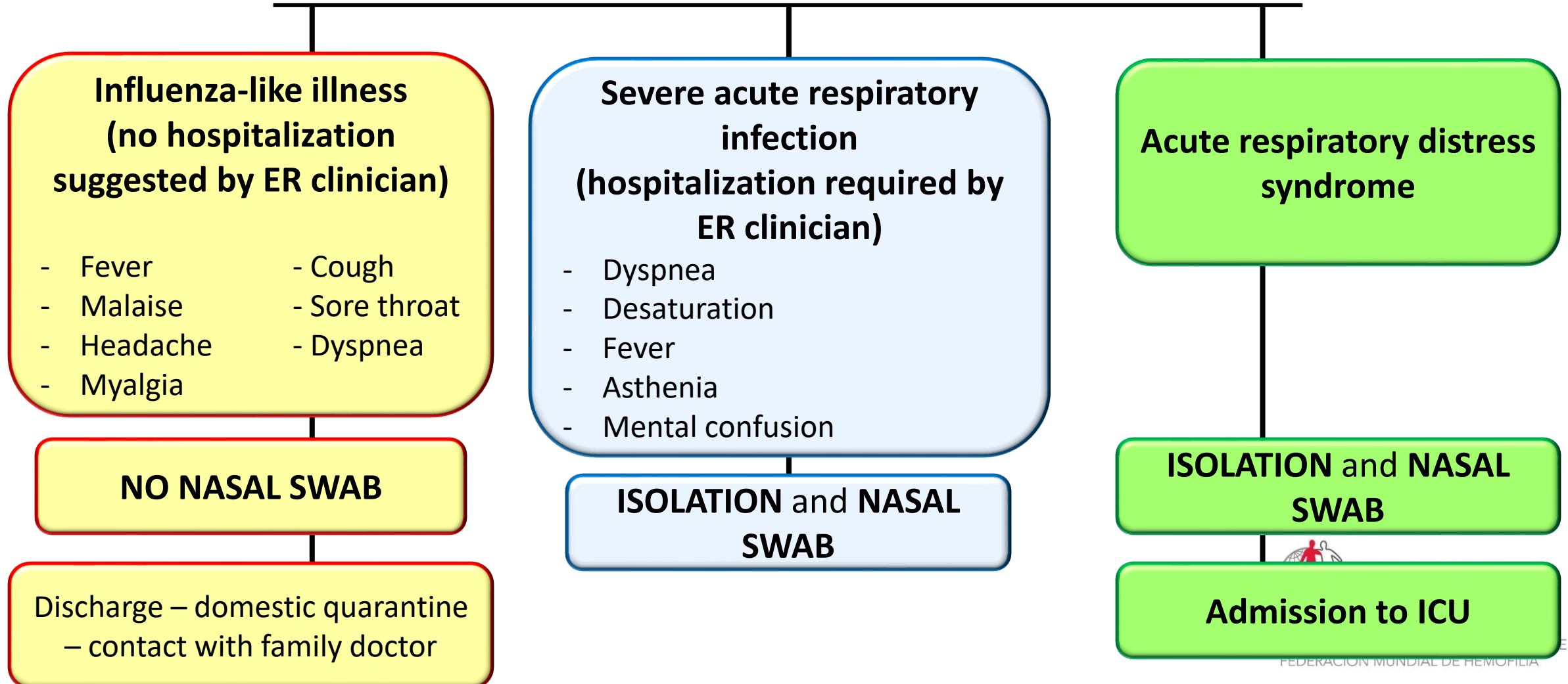
---

- Test performance is unclear; it is impossible to sort out in the absence of a definitive “gold standard” diagnostic test for COVID-19
- *Specificity* seems to be high
- Sensitivity may not be terrific (60-70%, data from case series)

- **A single negative RT-PCR *doesn't* exclude COVID-19** (*especially* if obtained from a nasopharyngeal source and if taken relatively early in the disease course)
- If negative, ongoing isolation and re-sampling should be considered



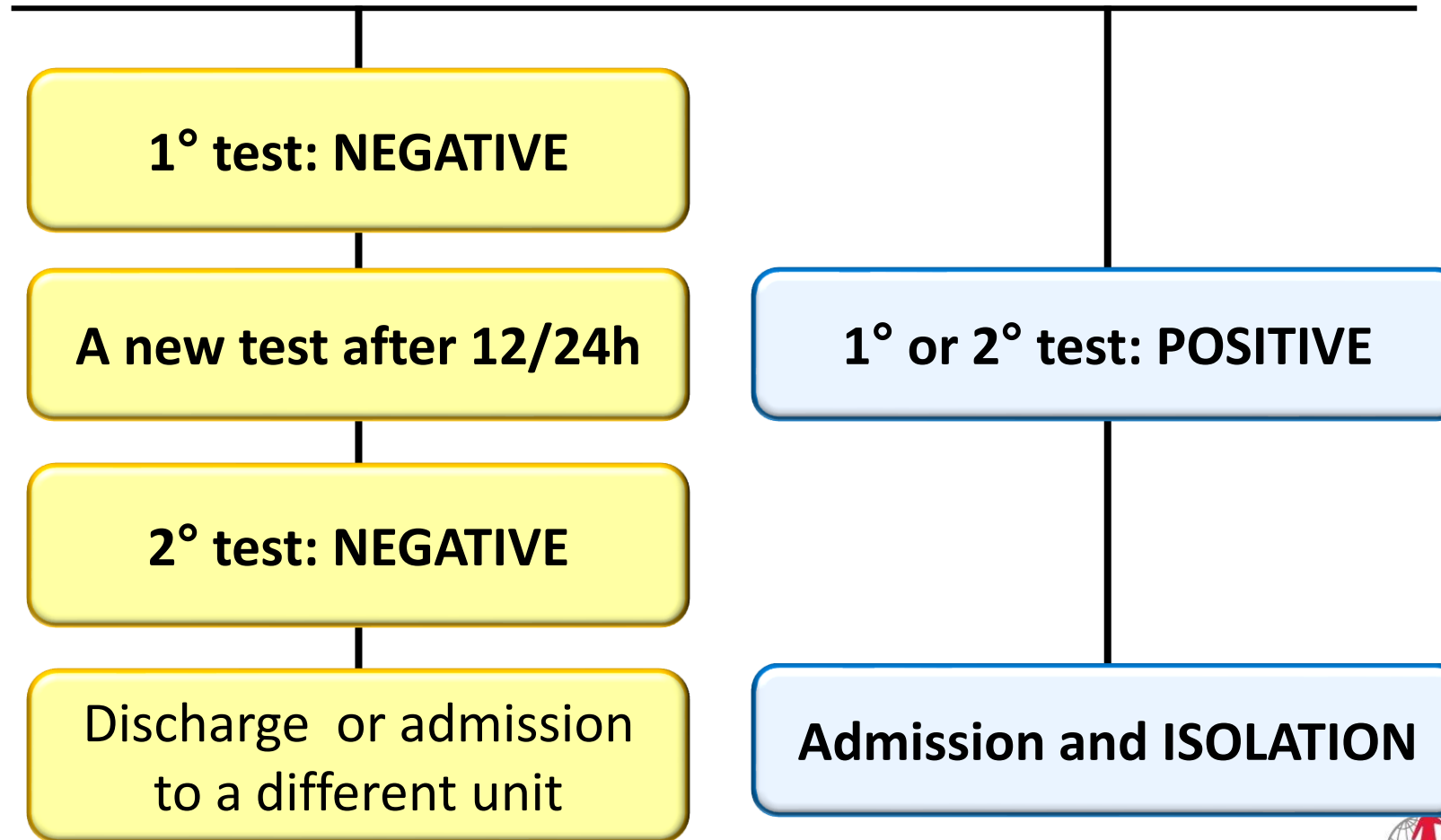
## Patient admitted to ER with suspicion for COVID19





# Procedure for NASAL SWAB

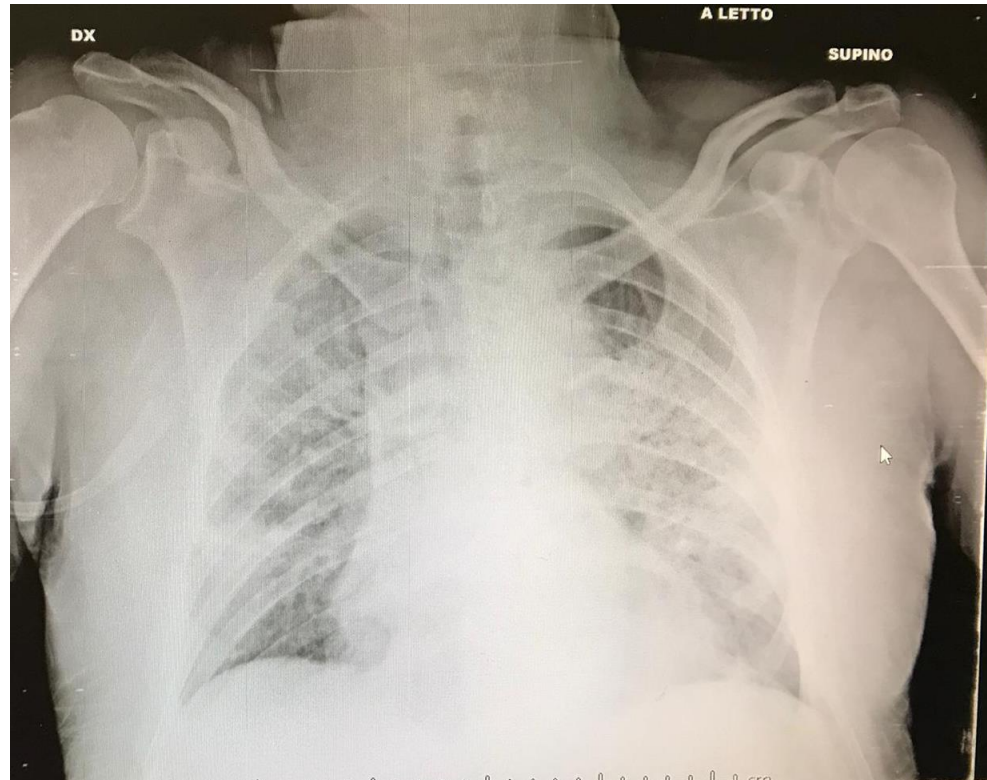
---



## Chest X-ray

The sensitivity of chest X-ray was found to be **59% among symptomatic patients** presenting to the hospital in one series

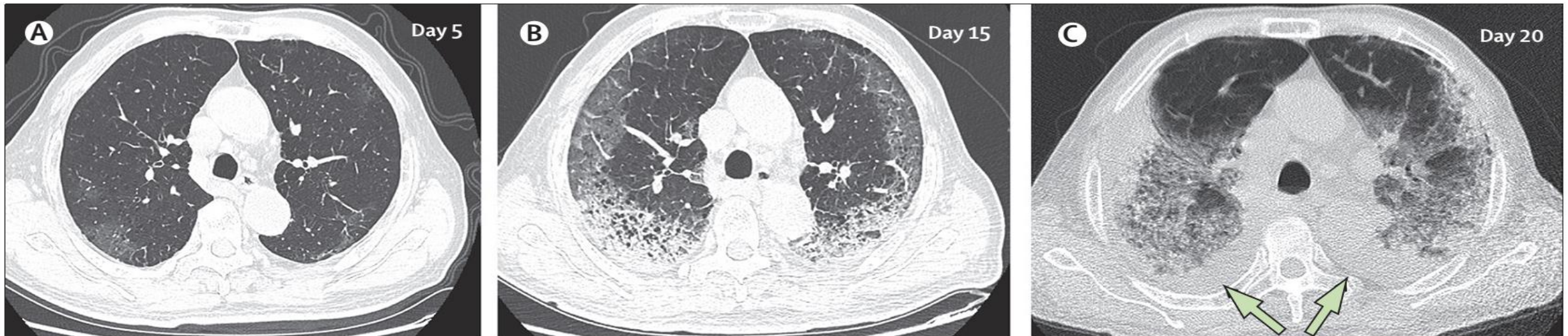
Guan et al. N Engl J Med. 2020



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOPHILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

# Serial CT scans in patient with poor prognosis

- Chest computed tomography (CT) in patients with COVID-19 most commonly demonstrates **ground-glass opacification with or without consolidative abnormalities**, consistent with viral pneumonia
- Case series have suggested that chest CT abnormalities are more likely to be **bilateral**, have a **peripheral distribution**, and involve the **lower lobes**



**Figure 5:** Transverse thin-section serial CT scans from a 77-year-old man

(A) Day 5 after symptom onset: patchy ground-glass opacities affecting the bilateral, subpleural lung parenchyma. (B) Day 15: subpleural crescent-shaped ground-glass opacities in both lungs, as well as posterior reticular opacities and subpleural crescent-shaped consolidations. (C) Day 20: expansion of bilateral pulmonary lesions, with enlargement and denser pulmonary consolidations and bilateral pleural effusions (arrows). The patient died 10 days after the final scan.

# Treatment

---

- The disease has distinct phases
- Treatment will differ as patients move through these phases



# Oxygen therapy

---

The goal of oxygen therapy is to maintain the oxygen saturation (Spo<sub>2</sub>) at 93%-96% for patients without chronic pulmonary disease and at 88%-92% for patients with chronic type ii respiratory failure

- It is strongly recommended in patients with symptoms of respiratory distress
- It is **not necessary** for patients with oxygen **saturation (SpO<sub>2</sub>) of more than 93%** or for patients without obvious symptoms of respiratory distress without oxygen treatment
- It should be noted that some severe patients with PaO<sub>2</sub>/FiO<sub>2</sub> < 300 had no obvious symptoms of respiratory distress





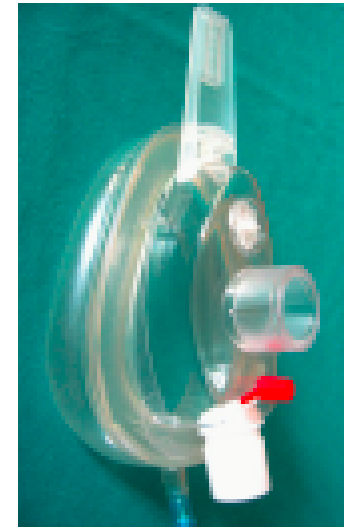
# Interfaces

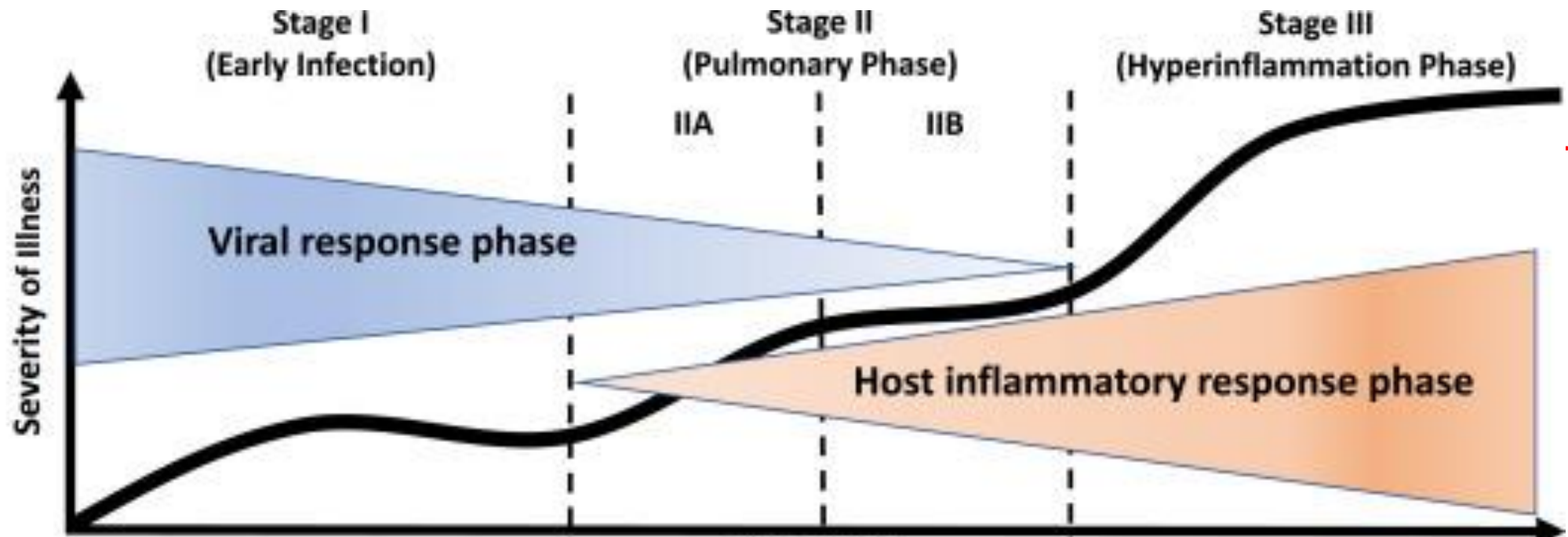
---

## Hood



## Masks





	Time course		
	Stage I (Early Infection)	Stage II (Pulmonary Phase) IIA IIB	Stage III (Hyperinflammation Phase)
<b>Clinical Symptoms</b>	Mild constitutional symptoms Fever >99.6°F Dry Cough, diarrhea, headache	Shortness of Breath Hypoxia (PaO <sub>2</sub> /FIO <sub>2</sub> ≤ 300mmHg)	ARDS SIRS/Shock Cardiac Failure
<b>Clinical Signs</b>	Lymphopenia, increased prothrombin time, increased D-Dimer and LDH (mild)	Abnormal chest imaging Transaminitis Low-normal procalcitonin	Elevated inflammatory markers (CRP, LDH, IL-6, D-dimer, ferritin) Troponin, NT-proBNP elevation
<b>Potential Therapies</b>	Remdesivir, chloroquine, hydroxychloroquine, convalescent plasma transfusions		
	Reduce immunosuppression	Corticosteroids, human immunoglobulin, IL-6 inhibitors, IL-2 inhibitors, JAK inhibitors	

# Treatment

---

- Identification of novel drugs for treating COVID-19 infections is urgently warranted
- There is a **need to do** (treat the patients) **and learn** (testing therapies **at the same time**) and **this is the biggest challenge**





# Acknowledgement

---

Collaborators and colleagues  
at the  
Angelo Bianchi Bonomi  
Hemophilia & Thrombosis Center

Fondazione IRCCS Ca' Granda  
Ospedale Maggiore Policlinico,  
Milan, Italy



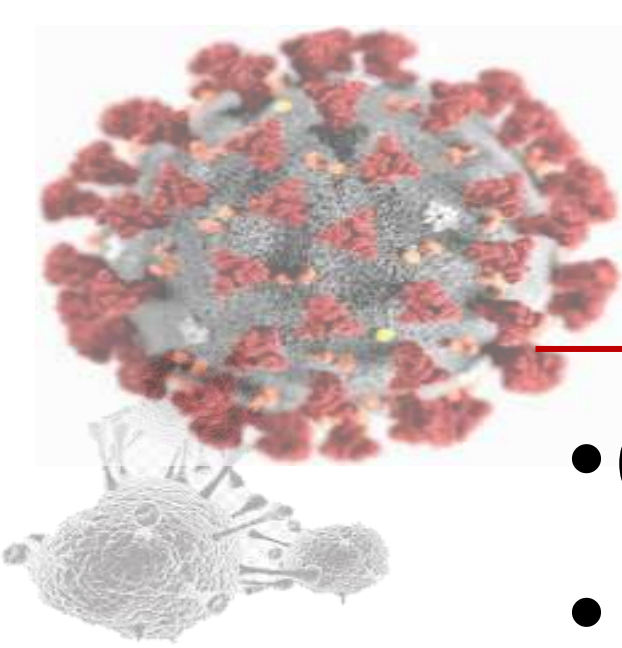
# PREPARATIONS IN EGYPT AND SIMILAR COUNTRIES

MAGDY EL EKIABY, MD  
SHABRAWISHI HOSPITAL  
CAIRO, EGYPT



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

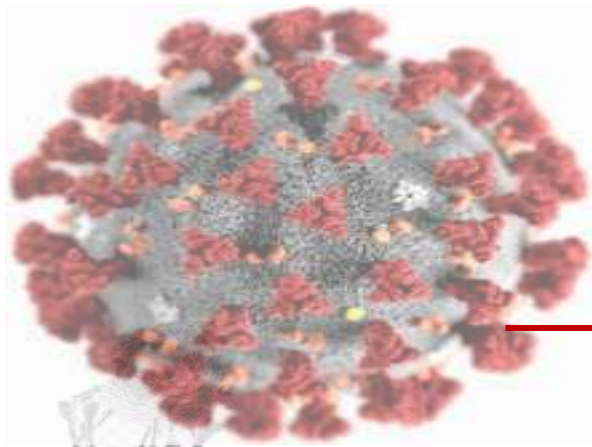




# Agenda

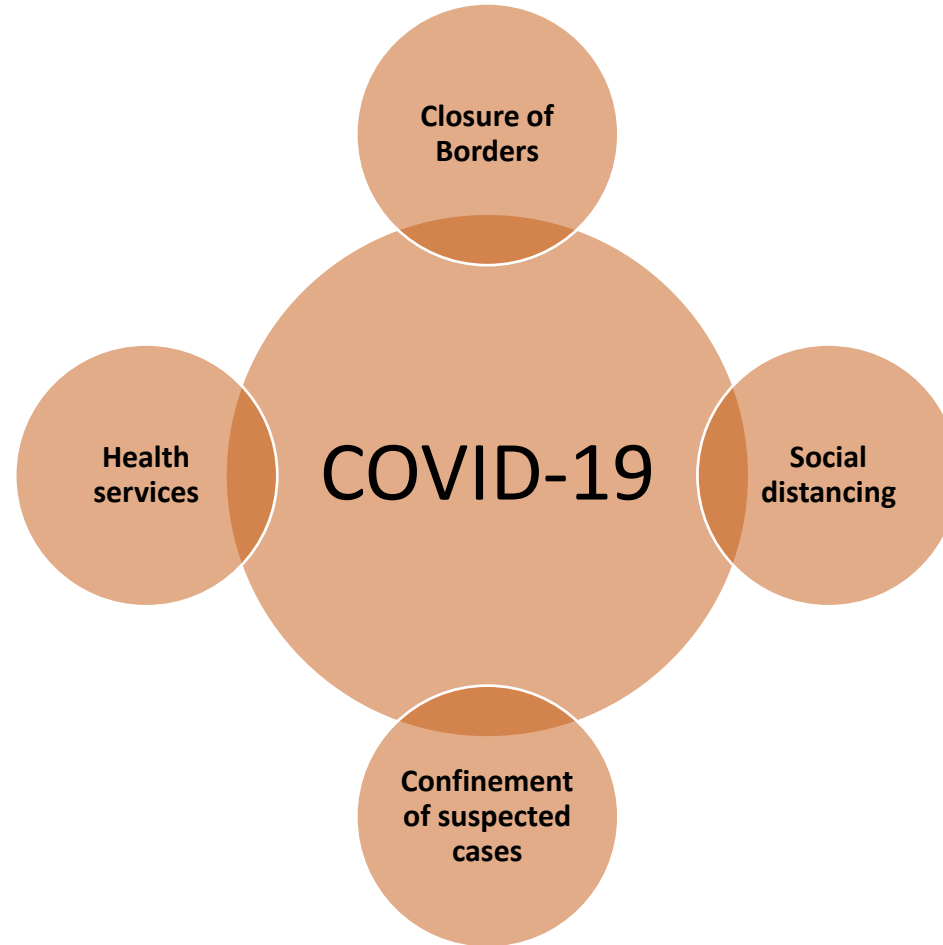
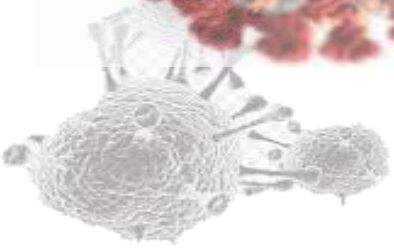
---

- COVID-19 in Egypt
- Hemophilia Care current situation
- Egyptian Society of Hemophilia



# Egypt containment of COVID-19

---





## تقرير كوفيد - ١٩

في مصر ليوم ٧ إبريل ٢٠٢٠

لمزيد من المعلومات والإستفسار  
الخط الساخن

**105**  
**15335**

[@mohpegypt](https://twitter.com/mohpegypt) [@egypt.mohp](https://www.facebook.com/egypt.mohp)

[@mohpegypt](https://www.instagram.com/mohpegypt) [/mohpegypt](https://www.linkedin.com/company/mohpegypt)

الوفيات  
الجديدة

9

عدد الحالات التي تحولت نتائج تحاليلها  
من إيجابية إلي سلبية

427

الحالات  
الجديدة

128

اجمالي  
عدد الوفيات

94

عدد حالات  
الشفاء (الخروج حتي الان)

276

اجمالي  
عدد المصابين

1450

Percentage of infected persons of the population: 0.0015%

## فيروس كورونا المستجد

فيروس كورونا المستجد (COVID-19) هو فيروس جديد ضمن فصيلة كبيرة تسمى الفيروسات التاجية "كورونا" والتي تصيب الجهاز التنفسي وتتراوح حدتها من نزلات البرد الشائعة إلى الأمراض الأشد خطورة مثل "سارس" و"ميرس"، ولم يتم اكتشاف علاج لـ"كوفيد-19" حتى الآن.

55

في عدد المصابين بالفيروس

من بين 211 منطقة و دولة حول العالم



149

من حيث إجمالي الإصابات بها لكل مليون نسمة

(1/14 مليون) وذلك بالمقارنة مع كل الدول و المناطق علي مستوي العالم التي ظهرت بها حالات إصابة حتي الآن

62

في نسبة التعافي (19%)

وذلك بالمقارنة مع كل الدول والمناطق على مستوى العالم التي ظهرت بها حالات إصابة حتي الآن تليها كل من جزيرة أروبا بالبحر الكاريبي (18.9%) وغينيا الإستوائية(18.8%) وتأتي الصين في المرتبة الاولي في نسبة التعافي (94.4%) وتليها جرينلاند بأمريكا الشمالية (90.9%)



38

في نسبة الوفيات من إجمالي عدد المصابين

كل من هندونيسيا بأمريكا الوسطى، ميانمار بأمريكا الجنوبية (7.2%)، مصر كل من



# Hemophilia situation in Egypt

---

- No reported cases of COVID-19 among patients with IBDs
- The standard of care is still based on episodic treatment (very limited prophylaxis programs)
- Few patients are on Hemlibra
- No patients are on gene therapy clinical trials or other types of trials

IBDs, inherited bleeding disorders



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA





# Hemophilia situation in Egypt

---

- There is a stock of CFCs at main warehouse of MoH dedicated to patients under HIO coverage and ministerial partial subsidy decrees
- A big donation from WFH HA program was received early this year and still a good amount is in stock
- Although there is a decree to give 3 months supplies of medications to chronic patients, yet at HIO, CFCs are considered as biological products and so they still request to be given at HTC





# Hemophilia situation in Egypt

---

- PWH have great concerns to go to hospitals for possible risk of infection with SARS-CoV-2
- In addition some of health insurance hospitals that have HTC's, are planned to be converted to COVID-19 isolation hospitals, which may reduce accessibility of Hemophiliacs to HTC's and consequently CFC's
- Two centers who have cohorts of patients on prophylaxis provide the monthly dosage to the families to be administered at home

# Egyptian Society of hemophilia (ESH) in response to COVID-19

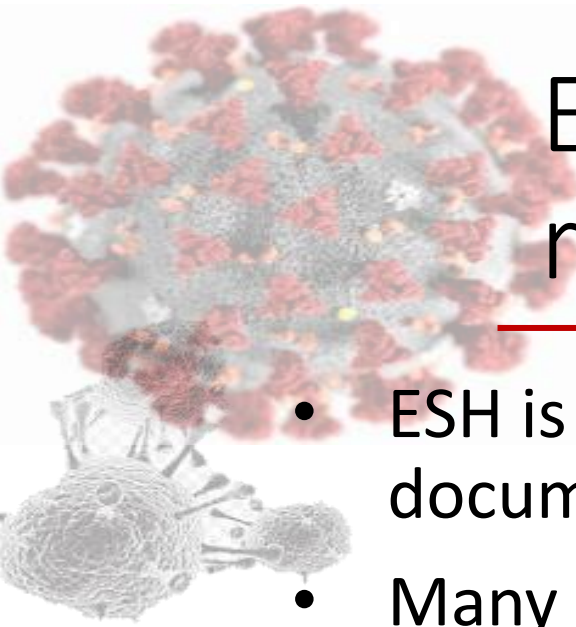
- ESH launched a social media campaign to educate PWH about COVID-19 and precautionary measures to prevent infections

- Arabic translation of WFH HA guidance document was posted on the ESH website and through social media
- A letter advocating for CFCs home therapy during the epidemic period was sent to HIO with active follow up
- Active patient groups submitted a request to prime minister to allow for home therapy during the epidemic period



الملتقى المصرى لمرضى الهيموفيليا  
٣١ مارس، الساعة ٤:٢٨ ص · ٠

نصائح عامة لمرضى الهيموفيليا أثناء فترة الحظر 🙏  
يقدمها لنا صديقنا العزيز أحمد بكرى 🙏  
مش معنى انك قاعد في البيت لفترة فانت كده بمأمن من النزيف  
١- النوم لفترات وساعات طويلة ليه أضراره على مريض الهيموفيليا لان العضلات بتبقى مشدودة والمفاصل بتبتقى متخشبة على وضعية واحدة أثناء النوم وده ببساطة ممكن يسبب نزيف في المفاصل المستهدفة لذا يرجى تقليل وتقطع ساعات النوم  
٢- الناس اللي ظروف شغلها أجبرها انها تشتغل على جهاز الكمبيوتر من البيت لفترات طويلة  
ياريت تبقى عارف ان جلوسك على وضعية واحدة لفترة طويلة غالبا هيتسبب في نزيف داخلي سواء في المفاصل وممكن كمان الحوض . فيايرت تقوم كل نص ساعة على الأقل وتتحرك وتغير وضعيتك  
٣- الجلوس امام التلفزيون لفترات الطويلة مضر لا بد من الحركة والتمشية في المنزل مع الحرص على عدم التزحلق في أي قطرات مياة او المطهرات اللي بتترش على السيراميك فيايرت الأرضيات تنتشف اول بأول .  
٤- الحرص أثناء القيام من وضعية الجلوس خاصة الكراسي المنخفضة وعدم التحميل بشكل عنيف على مفاصل الاقدام ومفاصل الحوض والاستناد على الازرع بشكل لطيف  
٥- الاقلال من المسكنات واستغلال تواجدك بالمنزل لفترات طويلة لاستخدام الدهانات على الأقل ٣ مرات في اليوم مع التحذير في استخدام أي دهانات - الدردشة  
النزيف (استخدام أي دهان وقت النزيف بيزيد من حدته) الدهانات الدردشة



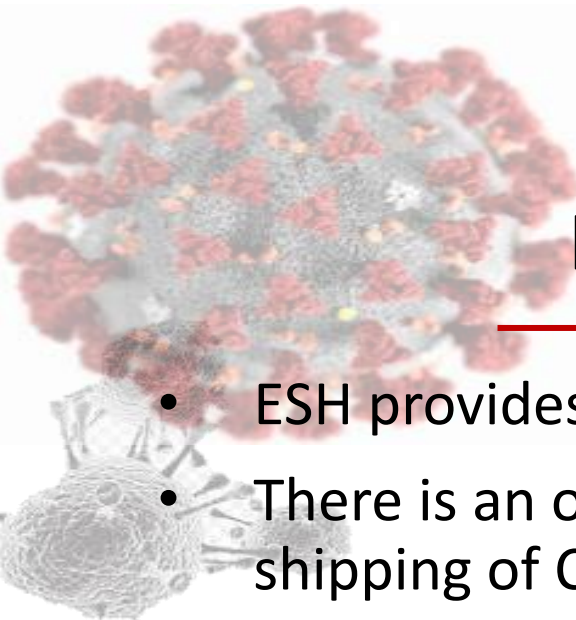
# Egyptian Society of hemophilia (ESH) in response to COVID-19

---

- ESH is actively participating in WFH Webinars and guidance documents on COVID-19 and communicate it to the patients
- Many patients have concerns about blood safety and some questions regarding CFC therapy in hemophiliacs who may be infected with SARS-CoV-2 or develop COVID-19 is on the radar of ESH
- Once informed of any hemophiliac who develops COVID-19, ESH will be in contact with health authorities to advise through its medical advisory board on prophylaxis from possible bleeding , control of any bleeding episode and supply of CFCs when needed







# Egyptian Society of hemophilia (ESH) in response to COVID-19

---

- ESH provides home therapy to patients in need through HA products
- There is an ongoing discussion with one pharmaceutical company to support shipping of CFCs from ESH warehouse to patients in need by courier
- ESH is planning social media activities with focus on management of hemophilia with the current situation on WHD



WORLD HEMOPHILIA DAY  
2020 | APRIL 17



**GET+  
INVOLVED**



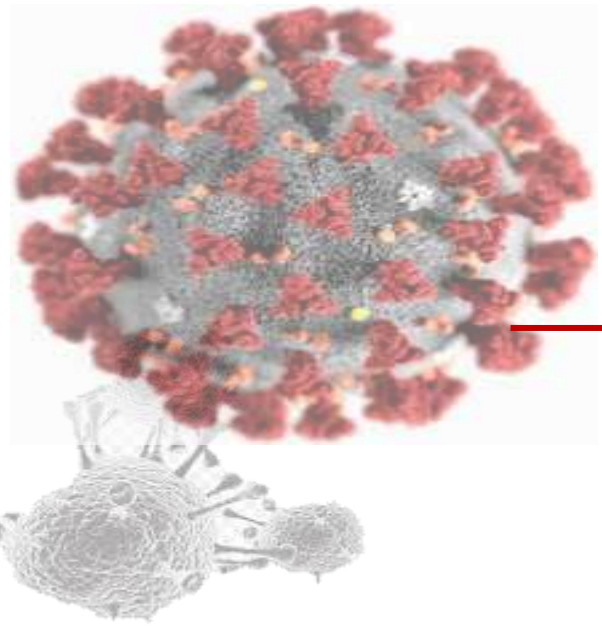
WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



# EMR COVID-19



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA



# WFH EMR in Response to COVID-19

Browser address bar: <https://translate.google.com/translate?sl=auto&tl=en&u=https%3A%2F%2Fwww.lor...>

Search bar: <https://www.lorientlejour.com/article/1213695/pourquoi-le-moyen-orient-est-il-moi>

Translate From: French To: English View: Translation

NEWS ECO CULTURE SPORT THE LAST THE ADVANTAGES OF THE OLJ YOUTH MULTIMEDIA DEBATE SERVICES NOTEBOOK

Lebanon Middle East and World Editorial and +

## MIDDLE EAST AND WORLD

### Why is the Middle East less affected by coronavirus?



## LATEST NEWS

**10:49 p.m. Coronavirus: Riyadh-led coalition announces ceasefire on Thursday in Yemen**

**10:40 p.m.** Assessment of the coronavirus worldwide Wednesday at 7:00 p.m. GMT: more than 86,200 dead

**10:28 p.m.** Coronavirus: more than 40,000 cases reported in Latin America

**9:30 p.m. Coronavirus / France: "extended confinement" beyond April 15**

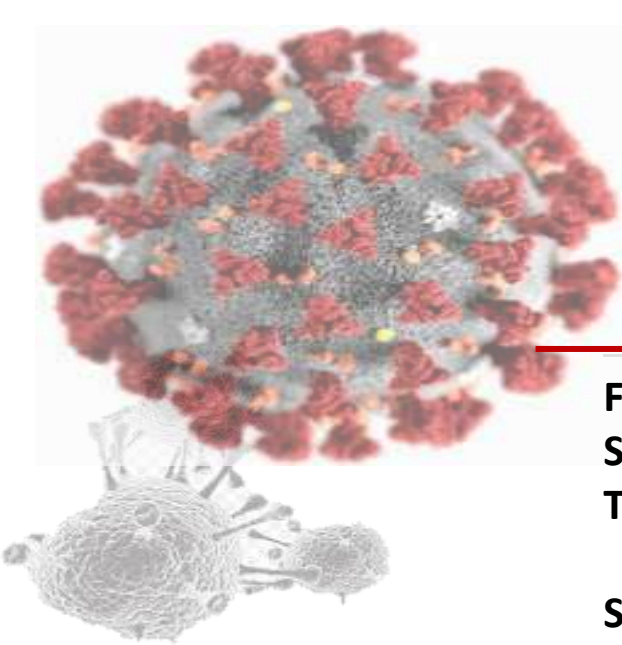
*All the info*

## TODAY'S SIGNATURES



*Issa GORAIEB's editorial*  
**Eclipse of a star**

*Decryption of Scarlett HADDAD*  
**Latent conflicts between Amal and Hezbollah**



---

**From:** ahmed Bahi

**Sent:** Wednesday, April 01, 2020 04:21

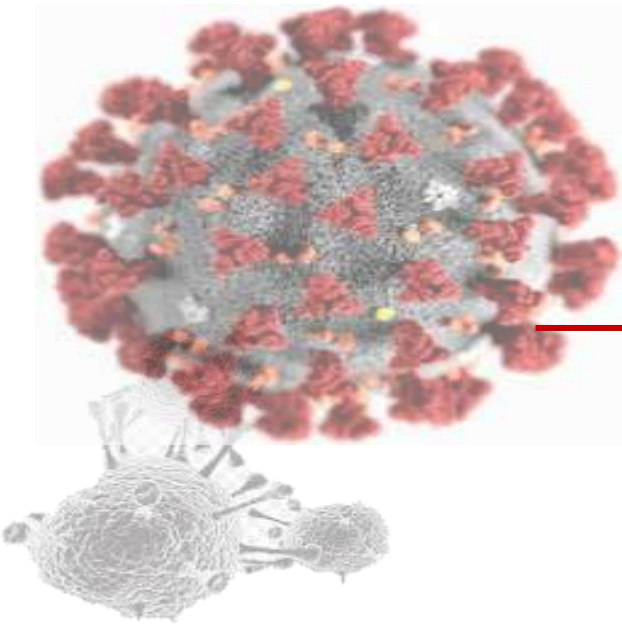
**To:** Rana Saifi

**Subject:** Re: Current Situation in Qatar: WFH Recommendations for Management of PWH During the COVID-19 Pandemic

Dear Miss Rana ,

I hope my email finds you well . Thanks a lot for your commitment to take care of hemophilia patients worldwide during such pandemic of COVID-19 .Here are the reply of Qatar Hemophilia Groups scientific committee to your concerns:-

-1- Diagnosis and treatment centers are adopting telemedicine for outpatient clinics to ensure treatment services is not interrupted while reducing risk of subjecting patients to nosocomial infections in case of emergency they still encouraged to go to hospital



**From:** ABDELLA, Yetmgeta Eyayou

**Sent:** Sunday, March 29, 2020 12:07 PM

**To:** EM RGO/WRs; EM ACO/WROs EM ACO/Desk Offices

**Cc:** LANGAR, Houda; MATARIA, Awad; ABUBAKAR, Abdinasir; EM RGO/HSD/EMT; EM RGO/WHE/IHM

**Subject:** Practical recommendations for management hemophilia patients during COVID-19 pandemic

---

Dear Colleagues,

The World Federation of Haemophilia issued special recommendations related to the management of persons with hemophilia (PWH) during COVID-19 pandemic. A big problem in much of the countries in the WHO eastern Mediterranean Region at present is that PWH are not provided with home treatment. Measures taken to control the pandemic may not allow PWH and/or their caretakers to visit hospitals to pick up their medicines, i.e., Clotting Factor Concentrates (CFCs). Unfortunately, in some cases, they were told to go twice a day to collect medicines. This will increase the risk of exposure to COVID-19. In addition, some countries are beginning to impose curfews and the PWH/caretakers will not be able to leave their homes.

In this regard, it would be most helpful if Ministries of Health provide guidance to haemophilia treatment centers to provide PWH/caretakers with home therapy of CFCs to have enough therapy for their bleeding episodes for extended period. This will reduce unnecessary risk of exposure to COVID-19 and as well to cope with situations of possible curfews in the countries.

Please also find below the link to the official statement of World Federation of Haemophilia on COVID-19.

<https://news.wfh.org/covid-19-coronavirus-disease-2019-pandemic-caused-by-sars-cov-2-practical-recommendations-for-hemophilia-patients/>

Best regards,

**Dr. Yetmgeta E. Abdella**

Medical Officer, Blood and other Products of Human Origin

Access to Medicines and Health Technologies  
WFH 9 April 2020

# THANK YOU

Information current as 8 April 2020.  
Check links for most up-to-date knowledge



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

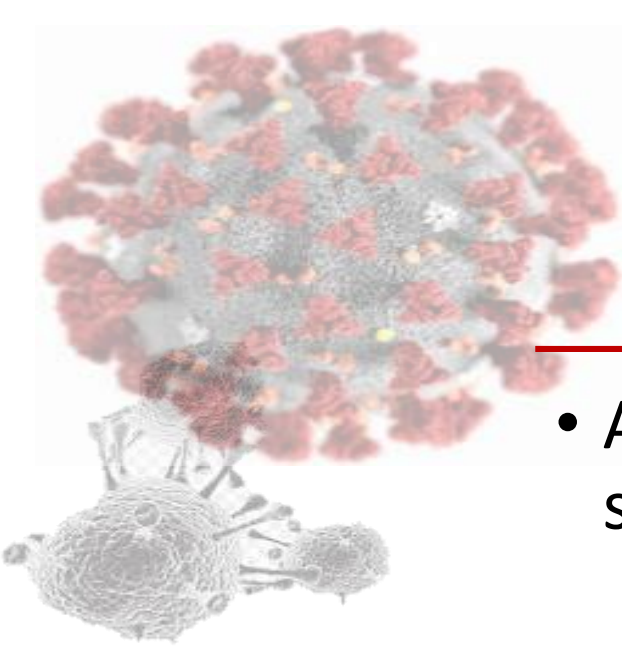


# QUESTION & ANSWER PERIOD

GLENN PIERCE, MD, PHD, FLORA PEYVANDI, MD,  
PHD, MAGDY EL EKIABY, MD, CEDRIC HERMANS,  
MD,PHD, RADOSLAW KACZMAREK, PHD



WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA

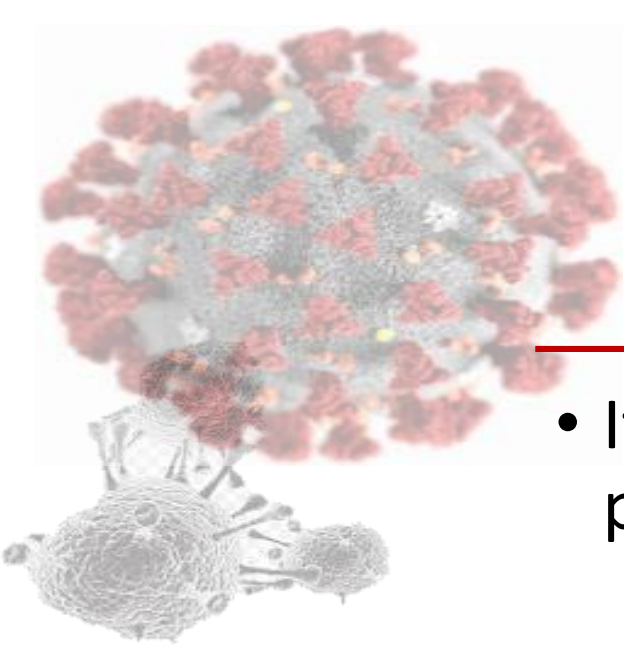


# QUESTIONS – Hemophilia & COVID-19

---

- Are people with hemophilia (PWH) more susceptible to COVID-19 (high-risk group)?
- Does COVID-19 affect PWH differently than others? What about PWH with hepatitis C?
- Are there any reported cases of COVID-19-positive PWH? If so, did the person show any symptoms that are uncommon?



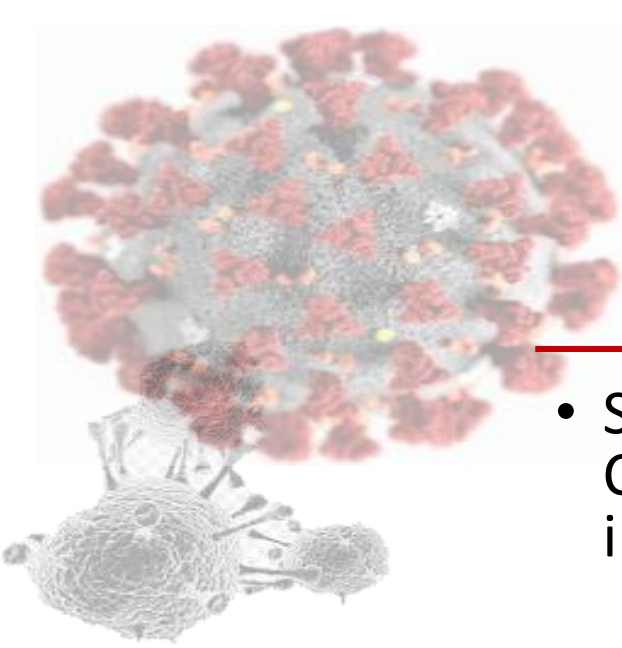


## QUESTIONS – Bleeding

---

- If a PWH tests positive for COVID-19, what is the probability of internal bleeding:
  - To the lungs or kidney ?
  - To the trachea (due to the severe dry coughing)?
- If tested positive to COVID-19, can a PWH go to their HTC for a bleed or should they go to the ER?
- If tested positive to COVID-19, what are the risks of thrombotic complications occurring in a PWH?



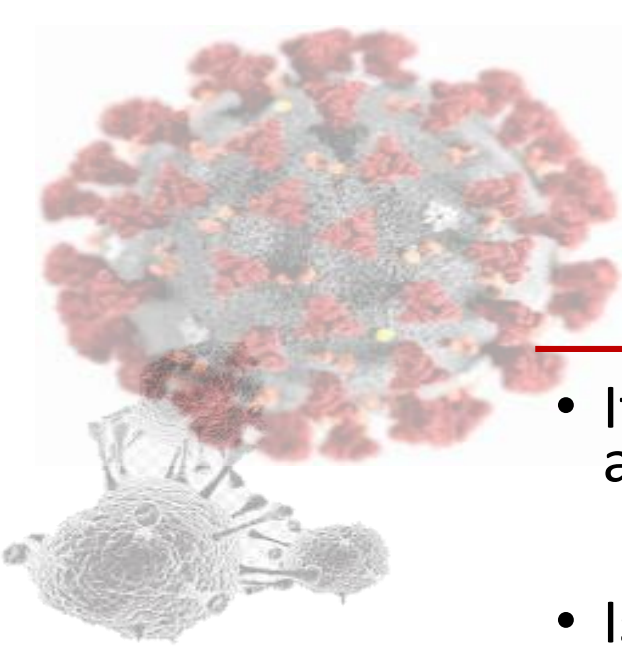


# QUESTIONS – Hemophilia Treatment

---

- Should PWH administer factor if tested positive to COVID-19? Any specific treatments for PWH with inhibitors?
- What should PWH on Hemlibra or similar products be aware of if tested positive for COVID-19?
- What should PWH on gene therapy or trials be aware of if tested positive for COVID-19?
- In the current situation, should PWH receiving treatment at a hospital request home treatment (if possible)?





# QUESTIONS – COVID-19

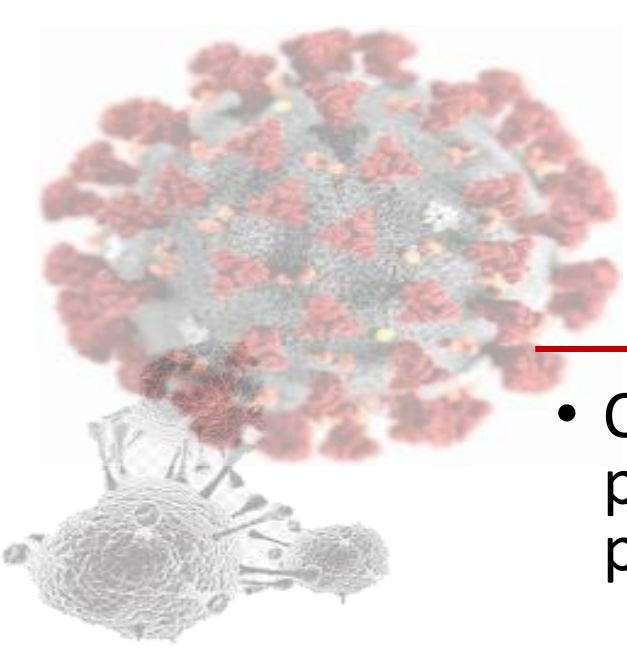
## Treatment

---

- If tested positive to COVID-19, what medicines (such as acetaminophen, ibuprofen) can a PWH take?
- Is it advisable to use heparin if required for COVID-19 treatment?
- Have COVID-19 patients required chest drains? Is this problematic for a PWH ?
- If tested positive for COVID-19, have PWH requiring admission to ICU been able to receive CFC prior to arterial lines etc. being put in?





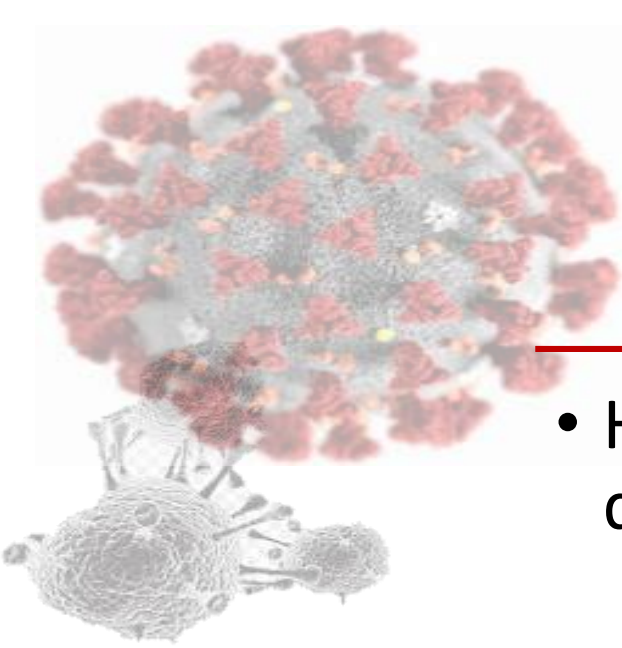


## QUESTION – Treatment safety and supply

---

- Can the virus be transmitted through fresh frozen plasma/ cryoprecipitate? Are current manufacturing processes killing the virus?
- Will access to plasma products be affected?
- Do you foresee a shortage of treatment products?
- Could a country order a manufacturer to stop exporting their products?



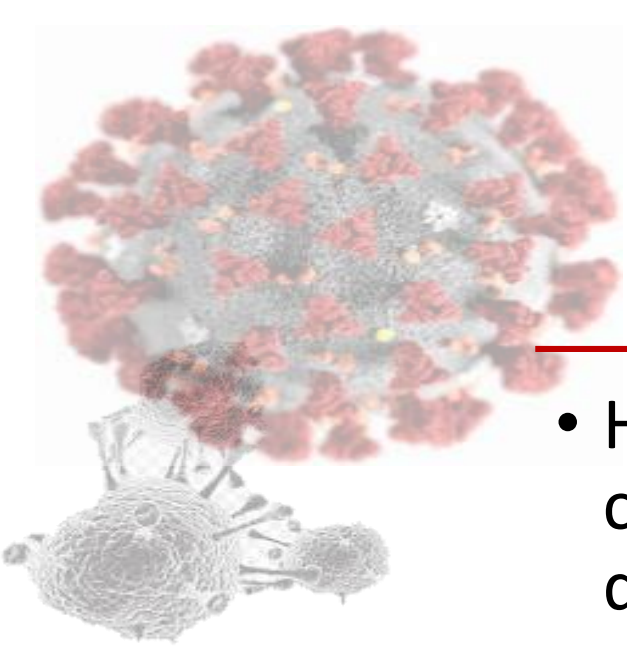


## QUESTION – Other bleeding disorders

---

- How does COVID-19 affect other bleeding disorders (vWD, rare factor deficiencies, etc.)?
  - Bleeding risk, treatment
  
- Are other bleeding disorders patients at increased risk of COVID-19?



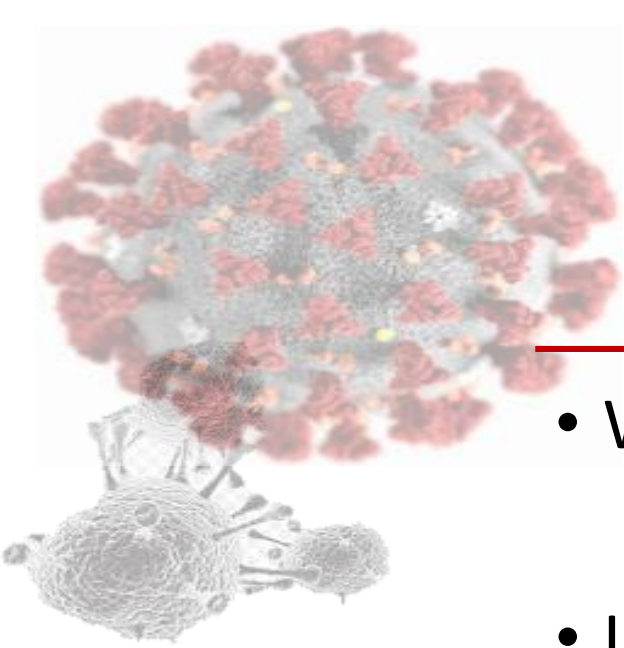


## QUESTION – Protective measures

---

- How can PWH protect themselves from coronavirus infection? For how long should PWH quarantine themselves at home?
- Should care provider take any special precautions?
- What is the difference between confinement and quarantine?





## QUESTION – Other

---

- What can I do to help?
- I am very worried about the situation, what can I do to worry less?





# ACKNOWLEDGEMENTS

---

- Angelo Bianchi Bonomi  
Hemophilia & Thrombosis Center  
Milan, Italy
- Fondazione IRCCS Ca' Granda  
Ospedale Maggiore Policlinico  
Milan, Italy
- Shabrawishi Hospital  
Cairo, Egypt





WEBINAR

# BLEEDING DISORDERS AND COVID-19

THE FACTS AND RISKS TO PERSONS  
WITH BLEEDING DISORDERS



# STAY SAFE THANK YOU!

[research@wfh.org](mailto:research@wfh.org)



**WFH**

WORLD FEDERATION OF HEMOPHILIA  
FÉDÉRATION MONDIALE DE L'HÉMOFILIE  
FEDERACIÓN MUNDIAL DE HEMOFILIA