

28 July 2020

A Systematic Approach for Managing Venous Thromboembolism in Patients with COVID-19: A Multinational Consensus Statement from the International Society on Thrombosis and Haemostasis (ISTH) on Behalf of the International Thrombosis Community

Introduction

With more than 6.7 million confirmed cases worldwideⁱ and nearly 400,000 deaths to date (7th June 2020) during 2020,ⁱⁱ the COVID-19 pandemic is one of the most significant healthcare crises of our time. The spread of COVID-19 has been varied, with some regions having sporadic transmission and relatively few hospitalized patients with COVID-19 pneumonia, and others where significant transmission has overwhelmed health services. While the disruption to health services continues, it is vital for the World Health Organization (WHO) to share the lessons of how best to prevent, diagnose, and treat patients with COVID-19 with health systems globally, and to learn about agreed clinical best practice approaches, which may improve patient outcomes.

The WHO should be congratulated on the publication of interim guidance on the Clinical Management of hospitalized patients with COVID-19ⁱⁱⁱ, the second iteration of which was published by the WHO in late May, which serves as a useful first step resource for health systems internationally. However, more must be done to meet the needs of front-line clinicians caring for patients with COVID-19 to ensure quality care, by addressing significant gaps in expert clinical guidance surrounding the prevention and management of venous thromboembolism (VTE) in COVID-19 patients.

COVID-19 and Venous Thromboembolism (VTE)

Venous thromboembolism (VTE) is a condition in which a blood clot forms most often in the deep veins of the leg, groin or arm (known as [deep vein thrombosis](#), DVT) and travels in the circulation, lodging in the lungs (known as [pulmonary embolism](#), PE). Together, DVT and PE are known as VTE - a dangerous, potentially deadly, medical condition.^{iv} [Hospital-associated VTE](#) (describes VTE occurring in hospital and 90 days post discharge) accounts for 60% of all VTE.

Emerging research indicates that:

- **People with COVID-19, especially those hospitalized with the moderate (requiring supplementary oxygenation) and severe (requiring mechanical ventilation) COVID-19 pneumonia have a high incidence of VTE^v**
 - **COVID-19 pneumonia is associated with a marked hypercoagulability, including high levels of fibrinogen and very high D-dimer levels;**
 - **In patients with COVID-19 pneumonia, there is a major inflammatory response which can lead to micro-clots – immunothrombosis - within the lungs. This likely contributes to the high levels of mortality seen in patients with COVID-19 pneumonia;**
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- **Some countries are facing difficulties in accessing low molecular weight heparins (blood thinners), a WHO essential medicine, that is a vital prophylactic and treatment for VTE in hospitalized patients with COVID-19.**

Call to Action on WHO in Relation to COVID-19-Related VTE

To reduce harm from COVID-19 associated VTE, the International Society on Thrombosis and Haemostasis, together with the undersigned national, continental and international clinical representative organizations, urgently calls on the WHO to endorse and share the application of a system-wide approach to VTE management on a global scale, as part of the international COVID-19 response that seeks to:

- Highlight the importance of a systematic approach to VTE prevention, diagnosis and treatment for patients with COVID-19; including those isolating at home, those hospitalized and those post discharge;
- Meet the needs of front-line clinicians caring for patients with COVID-19 to ensure quality care by improving health worker education about VTE in COVID-19 management that incorporates up-to-date consensus recommendations in the next iterations of WHO interim guidance on the Clinical Management of COVID-19 (ensuring a VTE expert(s) is enlisted to the Guideline Development Group);
- Signpost hospitals to accredited up-to-date evidence based clinical information portals on VTE related COVID-19 clinical guidance, such as the ISTH [COVID-19 Resource Page](#);
- Highlight to member states the importance of making available all WHO Essential Medicines, in particular low molecular weight heparins (blood thinners), which provides vital prophylactic and treatment for VTE;
- Improve COVID-19 VTE data collection and research to support regular updates of evidence-based clinical recommendations; and
- Encourage the implementation of a global VTE risk assessment tool for hospitalized patients.

VTE not only can kill, but can also have devastating co-morbidities, which significantly impact the quality of life for patients who survive COVID-19 and an associated VTE^{vi}.

It is critical for the WHO to address this public health challenge by prioritizing the development of systematic and integrated approaches to COVID-19-related VTE prevention that can be implemented in secondary and tertiary settings globally.

We urge the WHO to act now and offer our collective resources and expertise to assist in such an endeavor.













Signed on behalf of ISTH

Claire McLintock
President

Jeffrey Weitz
President-Elect













Beverley Hunt, O.B.E.
Chair, World Thrombosis Day

Endorsed by:

<p>Aktionsbündnis Thrombose</p> 	<p>American Heart Association</p> 	<p>American Society of Hematology</p>  <p>Covid-19 Resource Page</p>
<p>Anticoagulation Forum</p> 	<p>APS Foundation of America</p> 	<p>Armenian Association of Hematology and Oncology</p> 
<p>Armenian Association of Hemophilia</p> 	<p>Armenian Hematology Association</p> 	<p>Asian Pacific Society of Cardiology</p> 
<p>Asian Pacific Society of Thrombosis and Haemostasis</p> 	<p>Asociación Peruana de Trombosis y Hemostasia</p> 	<p>Associazione per la Lotta alla Trombosi e alle malattie cardiovascolari – Onlus</p>  <p>Associazione per la Lotta alla Trombosi e alle malattie cardiovascolari</p>

<p>Belgian Society on Thrombosis and Haemostasis</p> 	<p>Brazilian Association of Hematology, Hemotherapy and Cell Therapy</p> 	<p>Brazilian Society on Thrombosis and Haemostasis</p> 
<p>Canadian Venous Thromboembolism Research Network</p> 	<p>Centre of Excellence in Thrombosis and Anticoagulation Care</p> 	<p>Clinical Leaders of Thrombosis</p> 
<p>ČSTH ČLS JEP, Česká společnost pro trombózu a hemostázu ČLS JEP</p> 	<p>Deutschen Gesellschaft für Angiologie</p> 	<p>Deutsche Gefäßliga e.V.</p> 
<p>Deutschen Gesellschaft für Gefäßchirurgie und Gefäßmedizin</p> 	<p>Deutschen Gesellschaft für Phlebologie</p> 	<p>Dutch Society for Thrombosis and Haemostasis</p> 

<p>European Thrombosis and Haemostasis Alliance</p>  <p>ETHA European Thrombosis & Haemostasis Alliance</p>	<p>European Association for Haemophilia and Allied Disorders</p>  <p>EAHAD European Association for Haemophilia and Allied Disorders</p>	<p>Gesellschaft für Thrombose- und Hämostaseforschung</p>  <p>GTH</p>
<p>Global Innovative Foundation For Transforming Society (GIFTS NGO)</p>  <p>GIFTS FOR EVERYONE</p>	<p>Groupe Francophone Thrombose et Cancer</p>  <p>GFTC Groupe Francophone Thrombose et Cancer</p>	<p>Grupo Cooperativo Latino Americano de Hemostasia y Trombosis</p>  <p>GRUPO GLAHT</p>
<p>Health First Europe</p>  <p>HEALTH FIRST EUROPE</p>	<p>Hospital de Clínicas, Facultad de Medicina, Universidad de la República</p>  <p>UHT UNIDAD DE HEMOSTASIS Y TROMBOSIS DEL HOSPITAL DE CLÍNICAS UDELAR, MONTEVIDEO-URUGUAY</p>	<p>Hungarian Society of Thrombosis and Haemostasis</p>  <p>MAGYAR THROMBOSIS ES HAEMOSTASIS TÁRSASÁG</p>
<p>Institute for the Study and Education on Thrombosis and Antithrombotic Therapy</p>  <p>ISETAT INSTITUTE FOR THE STUDY AND EDUCATION ON THROMBOSIS AND ANTITHROMBOTIC THERAPY</p>	<p>International Initiative on Thrombosis and Cancer</p>  <p>ITAC-CME International Initiative on Thrombosis and Cancer</p>	<p>International Society on Thrombosis and Haemostasis</p>  <p>Isth International Society on Thrombosis and Haemostasis</p>

<p>Iranian Association for Hemophilia and Thrombophilia</p> 	<p>Japanese Society on Thrombosis and Hemostasis</p> 	<p>Kenya Society on Thrombosis and Haemostasis (KSTH)</p> 
<p>Korean Society on Thrombosis and Haemostasis</p> 	<p>Kyrgyz Society of Cardiology</p> 	<p>Lithuanian Heart Association</p> 
<p>Macedonian Society for Transfusion Medicine</p> 	<p>Moroccan Society of Vascular Diseases</p> 	<p>National Blood Clot Alliance</p> 
<p>Nigerian Society for Haematology</p> 	<p>Norwegian Society on Thrombosis and Haemostasis</p> 	<p>PERT Consortium</p> 

<p>Preventative Cardiovascular Nurses Association</p> 	<p>Romanian Society for Vascular Surgery</p> 	<p>Romanian Society of Hemostasis and Thrombosis</p> 
<p>Russian National Association on Thrombosis and Hemostasis</p> 	<p>Russian Scientific Inflammation Society</p> 	<p>Slovak Society on Haemostasis and Thrombosis</p> 
<p>Sociedad de Hematología del Uruguay</p> 	<p>Sociedad de Investigación y Ciencia en Homostasis y Trombosis del Uruguay</p> 	<p>Sociedad de Medicina Interna del Uruguay</p> 
<p>Sociedad Española de Trombosis y Hemostasia</p> 	<p>Sociedad Uruguaya de Patología Clínica</p> 	<p>Società Italiana per lo Studio dell'Emostasi e della Trombosi (SISSET)</p> 

<p>South Asian Society on Atherosclerosis and Thrombosis</p> 	<p>Stroke Association of Ghana</p> 	<p>Swedish Society on Thrombosis and Haemostasis</p> 
<p>Swiss Society of Hematology</p> 	<p>Thai Society of Hematology</p> 	<p>Thrombosis Hemostasis And Angiology Society of Turkey</p> 
<p>Thrombosis & Haemostasis Society of Australia and New Zealand</p> 	<p>Thrombosis Canada</p> 	<p>Thrombosis Guidelines Group</p> 
<p>Thrombosis Ireland</p> 	<p>Thrombosis UK</p> 	<p>Turkish Society of Hematology</p> 

<p>Unidad de Hemostasis y Trombosis, Hospital de Clínicas</p>  <p>UNIDAD DE HEMOSTASIS Y TROMBOSIS DEL HOSPITAL DE CLÍNICAS UDELAR, MONTEVIDEO-URUGUAY</p>	<p>VTE Ireland</p>  <p>VTE IRELAND</p>	<p>World Thrombosis Day (WTD)</p>  <p>WORLD THROMBOSIS DAY 13 OCTOBER</p>
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REFERENCES

ⁱ https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200527-covid-19-sitrep-128.pdf?sfvrsn=11720c0a_2

ⁱⁱ Ibid

ⁱⁱⁱ <https://www.who.int/publications-detail/clinical-management-of-covid-19>

^{iv} www.worldthrombosisday.org/issue/vte/

^v "Clinical Guidance on the Diagnosis, Prevention and Treatment of Venous Thromboembolism in Hospitalized Patients with COVID-19," *Journal of Thrombosis and Haemostasis (JTH)*.

^{vi} Ibid