

Diplôme Universitaire Thrombose Hémostase en Hématologie (T2H)

Program for the academic year 2022 - 2023

Educational leaders

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The courses of the DU T2H take place in the form of

1. Pre-recorded videoconferences progressively available on the Moodle platform (<https://moodle-medicine.sorbonne-universite.fr>)
2. A monthly interactive workshop realized on the zoom platform

Topics of the DU T2H modules

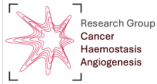
	Topics	Dates
Module 1	Physiology of hemostasis - Coagulation and inflammation Actors and phases of hemostasis <ul style="list-style-type: none"> ○ Primary hemostasis ○ Coagulation ○ Fibrinolysis 	October 2022
Module 2	Pathogenesis of thrombosis <ul style="list-style-type: none"> ○ Alterations in blood flow and thrombogenesis ○ Cellular hypercoagulability: the role of platelets, erythrocytes, leukocytes, endothelial cells, and neutrophil extracellular traps (NETs) ○ Cancer and thrombosis ○ Platelets and cancer ○ Immuno-thrombosis ○ Platelets, complement, and activation of the intrinsic coagulation pathway ○ Cancer, hypercoagulability, metastasis and resistance to anticancer treatment. The place of antithrombotic agents ○ Hypercoagulability and thrombosis in myeloproliferative disorders 	November 2022
Module 3	Biological investigations for the assessment of bleeding and thrombotic risk <ul style="list-style-type: none"> ○ Investigation of primary hemostasis: aggregometry, occlusion time, flow cytometry, radiolabeled serotonin test ○ Investigation of coagulation: prothrombin time/INR, activated partial thromboplastin time (aPTT), thrombin 	December 2022

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	<p>time (TT), reptilase time (RT), assays for the measurement of clotting factors and natural coagulation inhibitors</p> <ul style="list-style-type: none"> ○ Thromboelastometry and thrombin generation test ○ Biomarkers of hypercoagulability ○ Assays for the laboratory monitoring of the antithrombotic treatment (antiplatelet, vitamin K antagonists, heparins, direct oral anticoagulants) ○ Quality control for the hemostasis laboratory ○ Organization of a modern hemostasis laboratory and its place in the Clinics for the management of cancer associated thrombosis (Consultation on Thrombosis in Oncology) 	
Module 4	<p>Mechanism of action and pharmacological, pharmacokinetics and pharmacodynamic properties of antithrombotic and hemostatic agents - Special features of the antithrombotic therapy</p> <ul style="list-style-type: none"> ○ Vitamin K antagonists ○ Antithrombin-dependent antithrombotic agents (unfractionated heparin, low molecular weight heparins, fondaparinux) ○ Direct Oral Anticoagulants ○ Antiplatelet agents ○ New antithrombotic agents (factor XIa inhibitor, etc.) ○ Natural coagulation inhibitors ○ Hemostatic agents (PPSB, recombinant FVIIa, tranexamic acid, coagulation factor concentrates) <p>Special features of the antithrombotic therapy</p> <ul style="list-style-type: none"> ○ Fragile patients ○ Elderly patients ○ Obese patients ○ Oncology patients ○ Patients with renal insufficiency ○ Pregnant women ○ Drug interactions 	January 2023
Module 5	<p>Prevention of venous thromboembolic disease</p> <ul style="list-style-type: none"> ○ Epidemiological and socio-economic data on VTE ○ Risk assessment models for venous thromboembolism ○ Risk assessment models for bleeding ○ Oncology setting ○ Surgical setting ○ Medical setting - acute medical illness in hospital and at home ○ Intensive Care Unit ○ Pregnancy - medically assisted procreation ○ Principles of application of thromboprophylaxis in hospital and in the community 	February 2023
Module 6	<p>Treatment of venous thromboembolic disease</p> <ul style="list-style-type: none"> ○ Hereditary and acquired thrombophilia ○ Thrombosis associated with cancer 	March 2023

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	<ul style="list-style-type: none"> ○ Thrombosis associated with hormonal treatment ○ Thrombosis associated with pregnancy ○ Duration of antithrombotic treatment ○ Intensity of antithrombotic therapy ○ Criteria for optimization of the antithrombotic treatment 	
Module 7	<p>Thrombo-inflammatory syndromes</p> <ul style="list-style-type: none"> ○ Disseminated intravascular coagulation (diagnosis, interpretation of biological work-up, treatment) ○ Thrombotic microangiopathy (risk factors, diagnosis, treatment, and risk of recurrence) ○ Antiphospholipid syndrome (pathogenesis, diagnosis, and treatment) ○ Obstetrical antiphospholipid syndrome (pathogenesis, diagnosis, and treatment) ○ In vitro fertilization and antithrombotic treatment ○ Heparin induced thrombocytopenia (pathogenesis, diagnosis, and treatment) ○ Coagulopathy associated with treatment with Chimeric Antigen Receptor T-cell (CAR-T) ○ COVID-19 (pathogenesis, identification of patients at risk of disease worsening, the place of the antithrombotic agents in the therapeutic strategies) ○ Vaccine Induced Thrombosis and Thrombocytopenia (pathogenesis, diagnosis, and treatment) 	April 2023
Module 8	<p>Antithrombotic treatment in atherothrombosis</p> <ul style="list-style-type: none"> ○ Risk of arterial thrombosis in patients with cancer ○ Antiplatelet therapy in patients with cancer and atherothrombosis ○ Resistance to the antiplatelet therapy ○ Peripheral artery disease 	May 2023
Module 9	<p>Management of bleeding and assessment of bleeding risk</p> <ul style="list-style-type: none"> ○ Peri-operative management of antithrombotic therapy ○ Anticoagulation and Hemostasis Guidance Prior to Cancer Procedures ○ Specific antidotes for the antithrombotic agents in the clinical practices 	June 2023



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Program for the academic year 2022 - 2023

Modalities on the organization of the workshops

1. The program will take place via video-conferences in real time on the zoom platform.
2. A personalized email with the zoom connection link will be sent to all students before the workshop date
3. The workshops will be structured around the analysis of the evolving clinical cases of patients with pathologies related to the module's theme. The recommendations related to the module topics as well as the experiences of the experts will be presented.

Program of interactive workshops

2022 -2023

	Title of the workshops	Dates	Schedule
Module 1	Physiology of hemostasis - Coagulation and inflammation Actors and stages of hemostasis and thrombogenesis	14 October 2022	10:00 - 16:00
Module 2	Pathogenesis of thrombosis	18 November 2022	10:00 - 16:00
Module 3	Biological investigations for the assessment of bleeding and thrombotic risk	16 December 2022	10:00 - 16:00
Module 4	Mechanism of action and pharmacological properties of antithrombotic and hemostatic agents – Special features of the antithrombotic treatment	13 January 2023	10:00 - 16:00
Module 5	Prevention of venous thromboembolic disease	10 February 2023	10:00 - 16:00
Module 6	Treatment of venous thromboembolic disease	17 March 2023	10:00 - 16:00
Module 7	Thrombo-inflammatory syndromes	14 April 2023	10:00 - 16:00
Module 8	Antithrombotic treatment in atherothrombosis	12 May 2023	10:00 - 16:00
Module 9	Management of bleeding and assessment of bleeding risk	16 June 2023	10:00 - 16:00
Examen (oral individual)		30 June 2022	10:00 - 16:00