

**GRUPO COOPERATIVO IBEROAMERICANO  
DE MEDICINA TRANSFUSIONAL**

# **PATIENT BLOOD MANAGEMENT (PBM)**

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**GCIAMT Annual Course**



**Ortho Clinical Diagnostics**

## Objetives

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The main objective of this course is to provide intensive training through updated information based on scientific evidence that motivates participants to implement in their workspaces the practices proposed by the PATIENT BLOOD MANAGEMENT (PBM) programs for its acronym in English).

The inclusion of the acronym GSP, which replaces the widely used acronym PBM in the English language, is necessary to reach all health care professionals with the appropriate expression in their Spanish native language.

## Background

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Patient Blood Management (PBM), or GSP by from its acronym in Spanish, is a patient-centred public health approach.

PBM programs are therapeutic strategies based on scientific evidence, which aims to improve the condition of patients, with particular attention to states of anaemia (pre-surgical, pregnancies, and other situations of vulnerability) and to minimize the bleeding during surgery and associated complications and preventing or avoiding maternal mortality from haemorrhage in uncontrolled pregnancies.

PBM directly impacts the use of hospital blood reserves and costs associated with medical care in general. To improve the use of blood components is not the programs' goal per se, but it is, undoubtedly, a result of their implementation.

These policies to manage the patient's blood have been strongly recommended since 2010 by the World Health Organization (resolution WHA63.12 of the World Health Assembly) and by the European Union since 2017. However, at the global level, there is a gap between the definition of the PBM, its knowledge, and its application as a general framework.

## Education Proposal

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The Ibero-American Cooperative Group of Transfusion Medicine leadership warned that the effective implementation of PBM in our region is still a significant weakness. It is from the intention of being a mobilizing agent of the urgent need to promote the policies of the PBM, which we develop, from our function as a

scientific society dedicated to Blood Transfusion, an annual course based on the three pillars of these policies: 1. Optimize erythropoiesis, 2. Minimize blood loss and coagulopathy, and 3. Harness the tolerance to normovolemic anaemia

Based on the practical approach of the course, the lectures will be given by professionals with experience in the implementation of the theoretical concepts assigned.

We started from the assumption that the most challenging part of the PBM program is its effective implementation rather than the dissemination of knowledge, given that current practices are long-standing and deeply rooted in all professionals involved in decision-making. The implementation of PBM requires a significant institutional commitment and changes that go beyond care practice and include interdisciplinary communication, data collection and analysis, information and patient involvement in decision-making, and redefinition of the operation and objectives of the Hospital Transfusion Committees.

The trainees of this course should be medical professionals working at Blood Bank Services, Transfusion Services, or Hemotherapy Services. They must engage at least one physician from their institutions from specialties that have a critical role in GSP (Obstetrics, Anaesthesiology, Intensive Therapy, Internal Medicine, Haematology, Surgery, Paediatrics, among others).

Finally, the GCIAMT strategic objective of the course is to ensure that students can develop a strategic toolkit to launch a PBM program within a multidisciplinary team at their institution, regions, or countries.

## Supporting Societies

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Network for the Advancement of Patient Blood Management, Haemostasis and Thrombosis (NATA).

Society for the Advancement of Blood Management (SABM)

International Foundation for Patient Blood Management (IFPBM)

## Module 1 *Thursday June 9*

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### **Presentation**

*Professor: Ana del Pozo*

General introduction on the concept of Patient Blood Management (PBM). Differences between PBM and appropriate use of blood and its components (CUB)

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### **Anaemia Overview**

*Professor: Manuel Muñoz Gómez*

Prevalence and consequences. Comorbidities that compromise oxygen supply

## Module 2 *Thursday June 23*

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### **Anaemia Handling and Management**

*Professor: Arturo Pereira Saavedra*

Pathophysiology and diagnosis: Interpretation of laboratory studies

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*Professor: Aryeh Shanders*

Document Recommendations: International Consensus on Anaemia Management in Major Surgery (ICCAMS)

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*Professor: Donat R. Spahn*

Pragmatic approaches to preoperative anaemia management

## Module 3 *Thursday July 14*

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### **Practical medical conduct for antithrombotic therapy in the perioperative period.**

*Professor: José Antonio García-Erce*

Diagnosis of bleeding risk: interpretation of laboratory studies

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*Professor: José Aurelio Gómez-Luque*

Comorbidities/pharmacological treatments that predispose to the risk of bleeding

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## Module 4 *Thursday July 28*

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***Anaesthetic-surgical techniques to reduce perioperative bleeding. Haemostasis abnormalities and their monitoring***

***Professor: Carla Tymkow***

Non-pharmacological measures to reduce bleeding.

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***Professor: Misericordia Basora Macaya***

When to prescribe antifibrinolytic and pro-haemostatic agents, coagulation factors, and topical interventions.

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***Professor: Santiago Ramón Leal Noval***

Use of thrombo-elastometry and thrombo-elastography.

## Module 5 *Thursday September 1st*

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***Optimizing anaemia tolerance***

***Professor: Carla Tymkow***

Volume replacement: crystalloids-colloids

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***Professor: Manuel Muñoz Gómez***

Efficacy and risk of Autologous Transfusion

## Module 6 *Thursday September 22*

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***Obstetric Patient***

***Professor: Claudio Sosa***

Maternal mortality situation in the Americas Region. Mortality due to peripartum haemorrhage (PPH)

*Professor: Sara Cruz Melguizo*

Physiological, haematological changes in pregnancy. Clinical implications.

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*Professor: Manuel Muñoz Gómez*

Evaluation, investigation, and treatment of iron deficiency and anaemia in pregnant women. Iron needs during pregnancy and consequences of iron deficiency anaemia.

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*Professor: Sara Cruz Melguizo*

Evaluation of haemorrhage risk in the postpartum stage. Causes, comprehensive management; support with blood components and/or pharmacological alternatives

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## **Module 7** Thursday October 20

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### ***Polytraumatized patients and Massive Bleeding***

*Professor: Santiago Ramón Leal Noval*

Concept of critical bleeding and pathophysiology of haemorrhagic shock and coagulopathies. Clinical diagnosis and laboratory studies of the evolution of the massive bleeding.

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*Professor: Manuel Quintana*

Use of blood components and transfusion alternatives to control the impact of critical bleeding.

Massive Transfusion Protocols. Roles and responsibilities of the professionals involved.

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## **Module 8** Thursday October 27

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### ***Management of anaemia in other clinical settings I***

*Professor: David Faraoni*

Causes of anaemia and iron deficiency in newborns, infants, children, and adolescents. Approach to evaluation and treatment

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*Professor: Antonio Pérez-Ferrer*

Risks of bleeding and blood loss. Outline strategies to minimize blood loss.

## **Module 9** *Thursday November 3*

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### **Management of anaemia in other clinical settings II**

*Professor: Michael Auerbach*

Anaemia in adults' oncology patients

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*Professor: José Luis Morales Rull*

Anaemia and iron deficiency in heart failure.

## **Module 10** *Thursday November 17*

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### **Design and implementation of the PBM Program**

*Professor: Axel Hofmann*

Why and how to implement PBM on an institutional level.

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*Professor: José Antonio García Erce*

PBM role in ERAS programs (Enhanced Recovery After Surgery) and RICA guidelines

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*Professor: Elvira Bisbe*

Maturity Assessment of Patient Blood Management (MAPBM)

## **Module 11** *Thursday December 1*

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### **Effectiveness of a PBM program**

*Professor: Erica Wood*

Model of a successful PBM program: Australia. Step by step for its implementation. Barriers that limit its adoption. Alternatives to overcome them. Effectiveness Indicators. Impact on healthcare costs. Strategies for multidisciplinary involvement. The patient-centred focus.

### **PBM Program effectiveness**

**Professor: Carlos Jericó**

PBM program implementation in digestive surgery.

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**Professor: Patrick Meybohm**

PBM cost-effectiveness program: results in the implementation of the European Perspective. Patient Centred focus.

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## **Coordinator Team**

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**Director:** Silvina Kuperman<sup>1</sup>,

**Pedagogical Coordinators:** Oscar Torres<sup>2</sup>, Armando Cortes<sup>3</sup>

**Academic Assesors:** Ana del Pozo<sup>4</sup>, Manuel Muñoz<sup>5</sup>

1. GCIAMT president until 2019- 2022
2. GCIAMT Secretary until 2019- 2022
3. GCIAMT Continuing Education until 2019- 2022
4. Assessor Hemotherapy Program in Chaco Province, Argentina. Member of the Expert Committee on Biological Products ECBS-WHO.
5. University of Malaga, Spain. Network for the Advancement of Patient Blood Management, Haemostasis and Thrombosis (NATA, Board of Directors), International Foundation for Patient Blood Management (IFPBM)



# Academy

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## **Ana Emilia del Pozo**

Physician. Specialist in Hematology. Specialist in Hemotherapy and Immunohematology. Assessor Hemotherapy Program in Chaco Province, Argentina. Member of the Expert Committee on Biological Products- WHO (ECBS)

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## **Manuel Muñoz Gómez**

Physician. University of Malaga, Spain. Network for the Advancement of Patient Blood Management, Haemostasis and Thrombosis (NATA, Board of Directors). International Foundation for Patient Blood Management (IFPBM). Associate editor of the journal "Blood Transfusion"

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## **Arturo Pereira**

Physician. Specialist in Hematology and Hemotherapy. Consultant Senior "Servicio de Hematología del Hospital Clinic de Barcelona"

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## **Aryeh Shanders**

Physician, Anesthesiologist. Clinical Professor of Anaesthesiology, Medicine and Surgery, Icahn School of Medicine at Mount Sinai and Chief of Department of Anaesthesiology, Critical Care Medicine, Hyperbaric Medicine and Pain Management at Englewood Hospital and Medical Center. Founding member of the Society for the Advancement of Blood Management (SABM)

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## **Donat R. Spahn**

Physician, Anesthesiologist Professor and Chairman at the Institute of Anaesthesiology, University and University Hospital Zurich, Switzerland. Panel coordinator for the development of the European guidelines for management of bleeding following major trauma.

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## **José Antonio García-Erce**

Physician. Specialist in Hematology and Hemotherapy. Director Blood and Tissue Bank. Navarra. Spain. Member of the Scientific Committee of NATA.

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### **Aurelio Gómez Luque**

Physician, Anesthesiologist. Professor of Anaesthesia, Reanimation and Pain Medicine. University of Malaga. Spain.

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### **Carla Tymkow**

Physician, Anesthesiologist. "Hospital Italiano de Buenos Aires. Argentina"

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### **Misericordia Basora Macaya**

Physician, Anesthesiologist. Consultant at the Service of Anaesthesiology and Reanimation. "Hospital Clinic Barcelona", Barcelona, Spain. Assistant Professor, School of Medicine, University of Barcelona.

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### **Santiago Ramón Leal Noval**

Physician, Specialist in Intensive Care. Former consultant at Intensive Care Department, Hospital Virgen del Rocío, Seville, Spain. Director of the online course HEMACRIT (Massive and critical bleeding) and Coordinator of the Spanish Consensus Document on Alternatives to Allogeneic Blood Transfusion (Seville document). Associate Editor of the journal "Medicina Intensiva"

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### **Aaron Tobian**

Physician, Director of Transfusion Medicine Division, and Professor of Pathology Johns Hopkins University School of Medicine. Member of the AABB Board of Directors. Associate Editor for the Journal of Clinical Apheresis, Section Editor for UpToDate, and sits on the Editorial Board for the journal TRANSFUSION.

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### **Claudio Sosa**

Physician. Specialist in Obstetrics and Gynaecology. Full Professor "Gineco-Tología", School of Medicine- UDELAR. Uruguay. PhD on Epidemiology, MsPH on Public Health, International Consultant PAHO/WHO

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### **Sara Cruz Melguizo**

Sara Cruz Melguizo. Physician. Specialist in Gynaecology and Obstetrics. Service of Gynaecology and Obstetrics "Hospital Universitario Puerta de Hierro" Madrid, Spain.

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### **Manuel Quintana Paz**

Physician Specialist in Intensive Care, Intensive Care Unit, University Hospital La Paz. PBM group, Hospital la Paz Institute for Health Research (IdiPAZ), Madrid, Spain. Associate Professor, School of Medicine, Autonomous University, Madrid, Spain.

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### **David Faraoni**

Paediatrician, Anesthesiologist. Texas Children's Hospital Associate Editor for Anaesthesiology, Anaesthesia & Analgesia, and Paediatric Anaesthesia, as well as a member of the editorial board of the Journal of Cardiothoracic and Vascular Anaesthesia, The Journal of Thoracic and Cardiovascular Surgery, and the Seminars in Cardiothoracic and Vascular Anaesthesia

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### **Antonio Pérez-Ferrer**

Physician, Anesthesiologist. Chief Service of Anaesthesiology and Reanimation, Coordinator of the Surgical Area, "Hospital Universitario Infanta Sofía, Madrid, Spain. Co-editor "Medicina Transfusional". Patient Blood Management (PBM), Ed Panamericana, 2° Ed 2018

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### **Michael Auerbach**

Physician, Specialist in Hematology and Oncology. Clinical Professor of Medicine, Georgetown University. School of Medicine, Pvt. Pract., Baltimore

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### **José Luis Morales Rull**

Physician, Specialist in Internal Medicine, University Hospital "Arnau de Vilanova". Head of the Heart Failure Unit, Health Care Region of Lleida, Lleida, Spain.

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### **Axel Hofmann**

Doctor of Medical Science with a Master's Degree in Economics. Adjunct Professor at the Faculty of Health and Medical Science, University of Western Australia and Visiting Professor at the Institute of Anaesthesiology at the University Hospital Zurich, Switzerland. Key opinion leader in PBM with a focus on clinical and health economic research, and the implementation of PBM. Chair of the World Health Organization's (WHO)

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### **Elvira Bisbe**

Physician, Senior Consultant of Anaesthesiology. Group of research in perioperative IMIM (Hospital del Mar Medical Research Institute). President of Anaemia Working Group España ([www.awge.org](http://www.awge.org)). Member of the Haemostasia and Transfusion Medicine section in the Spanish Society of Anaesthesia (SEDAR). Network for the Advancement of Patient Blood Management, Haemostasis and Thrombosis (NATA, Board of Directors). International Foundation for Patient Blood Management (IFPBM).

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### **Carlos Jericó**

Physician, Specialist in Internal Medicine. Internal Medicine Service. "Hospital Sant Joan Despí-Moisés Broggi, Consorci Sanitari Integral, Sant Joan Despí, Barcelona, Spain. Grupo Multidisciplinar para el Estudio y Manejo de la Anemia del Paciente Quirúrgico ([www.awge.org](http://www.awge.org))"

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### **Erica Wood**

Physician, Specialist in Hematology. President of the ISBT (2020-2022), Director Transfusion Research Unit in the Department of Epidemiology and Preventive Medicine at Monash University in Melbourne, Australia. President International Hemovigilance Network, Member of World Health Organization Expert Advisory Panel in Transfusion Medicine

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### **Patrick Meybhom**

Physician, Anesthesiologist. Head of the Department of Anaesthesiology, Intensive Care Emergency and Pain Medicine, University Hospital Würzburg, Würzburg, Germany.

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## Organization

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- This on-line course will be delivered through the virtual classroom of the GCIAMT.
- The course is aimed at physicians, specialists in transfusion medicine and members of the GCIAMT. They should be interested in experiencing learning based on real situations and in updating the required medical-theoretical frameworks. They must attend together with at least one physician from the above-mentioned specialties, who are not required to be members of GCIAMT, but to work in the same institution.
- Lectures will be delivered once or twice a month from June to December 2022, from 4 pm to 7 pm CEST.
- A certificate of course participation will be awarded if the students complete at least 80% attendance and a final self-assessment.
- Simultaneous translation English to Spanish will be available.
- The course lecture presentations will be uploaded to the GCIAMT Educational Campus. They will be available until the course ends.

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**START**  
**THURSDAY JUNE 9**  
**4:00 PM ARG**  
**2:00 PM COL**

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