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## D2.3 Defined education strategy for healthcare professionals in stem cell donation

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**Table of content**

<b>D2.3 Defined education strategy for healthcare professionals in stem cell donation</b> .....	1
Introduction.....	3
1. WMDA Educational courses .....	4
1.1. Current curricula.....	4
1.2 Course evaluation .....	5
2. Notable changes to the WMDA educational courses in 2020 .....	7
2.1. Theme 1: didactic learning.....	7
2.2 Theme 2: awareness and engagement.....	9
2.3 Theme 3: accreditation and recognition.....	9
3. WMDA education – expansion of education courses.....	10
3.1 Exploring the needs – what are the requirements of the WMDA members? .....	10
3.2 Brainstorm sessions in 2020 .....	12
3.3 Identify education streams .....	12
3.5 Future plans.....	15
4. Appendices .....	17
4.1 Educational brochure 2020.....	17

## Introduction

Professionals involved in unrelated adult donor/cord blood unit search and selection are essential in the process to find the best donor for a patient. To standardise the level of expertise of staff performing searches and providing recommendations on graft selection, the WMDA has developed a global certificate programme. Currently, the WMDA provides courses four courses in Stem cell transplantation and Donation, as well as two on Quality and Accreditation via an online e-learning platform.

The e-learning platform is designed to reach all WMDA members interested in their continuing education in field of hematopoietic stem cell transplantation. The main advantages offered by online learning are the flexibility for each student to work when and where they want, and the possibility of connecting with a wide-reaching network of colleagues, peers, and experts in the field.

This Deliverable D2.3 publication about the education strategy for healthcare professionals in stem cell donation is part of the 2020 work programme of the World Marrow Donor Association for the EU Third Health Programme (2014-2020). This report will be used to gain insight in the current status of the educational program, and to provide a resource to support the long-term strategy for education for healthcare professionals in stem cell donation. The report also discusses the various changes made to the program in 2020 to provide more up to date content via an intuitive learning environment for all students. Various opportunities for more engagement with the students were sought. Furthermore, a plan for long-term changes to the content and structure has been set in motion and will be finalized in 2021.

## 1. WMDA Educational courses

WMDA offers a variety of e-learning opportunities for healthcare professionals who work in the field of hematopoietic stem cell transplantation. Topics of educational interest have been established and developed together with the WMDA working groups, experts in the field and continual feedback from WMDA members.

The e-learning platform is designed to reach all that are interested in continuing their education in the field of hematopoietic stem cell transplantation. The current available courses can be valuable for search coordinators, donor coordinators, transplant coordinators, professionals involved in donor selection, donor recruiters, nurses, physicians, laboratory technicians, other registry supporting positions.

### **The aim of the educational program:**

- Harmonize Search Coordinators training to agreed standards through well structured, high quality and affordable program.
- Provide Search Coordinators with rare access to top speakers, Q&A session, "live" presentations, latest updates, hot topics presented by leading scientists.
- Give Search Coordinators recognition of their knowledge and expertise through obtaining recognized WMDA diploma acknowledging level of their expertise.
- Provide on-going training and post-diploma professional development program.  
Membership Level: access to password protected online space with updates, recommended papers, conference presentations, forum for case studies.

### 1.1. Current curricula

Currently, the WMDA offers four different courses in the "Donation and Transplantation" category and two courses in "Quality and Accreditation". All courses are made up of multiple modules and all are taught in English, consisting of academic e-learning lectures on scientific and practical topics relevant to professionals in the field of hematopoietic stem cells, most are followed by an exam and formal WMDA certificate (Table 1).

In 2020, seventy-nine (79) students enrolled for one of the "Donation and Transplantation" courses offered. Of which, thirty-six (36) students registered for the search coordinator basic level course, twenty-five (25) registered for the search coordinator advanced level course, nine (9) registered for the search coordinator continuing education course and another nine (9) students signed up for the donor coordinator (plus) course. The "Quality and Accreditation" courses saw at least seven (7) new registrations for the reviewers training programme. Data for the new registrations in the experienced reviewer education program is currently not available.

In total, eighty-nine (89) students successfully completed their educational program in 2020 and have received a certificate for this. This includes students that started in 2019 and who have finished in 2020. Of the students that enrolled in 2020, fifteen (15) students have already completed the entire course

and have been sent their certificate. The rest is expected to finish in December 2020 or in the course of 2021.

	Donation and transplantation	Quality and Accreditation	Number of modules in course	Entry level required	Final exam	New students 2020
Search coordinator certificate program basic level	X		9	No	Yes	36
Search coordinator certificate program advanced level	X		9	Yes	Yes	25
Search coordinator certificate program continuing education program	X		4	No	No	9
Donor coordinator program	X		5*	No	No*	9
WMDA reviewers Training programme		X	15	No	Yes	7
WMDA Experienced reviewer education		X	5	Yes	No	N.A.

\* A donor coordinator plus level is available where participants complete 2 additional modules and a final exam.

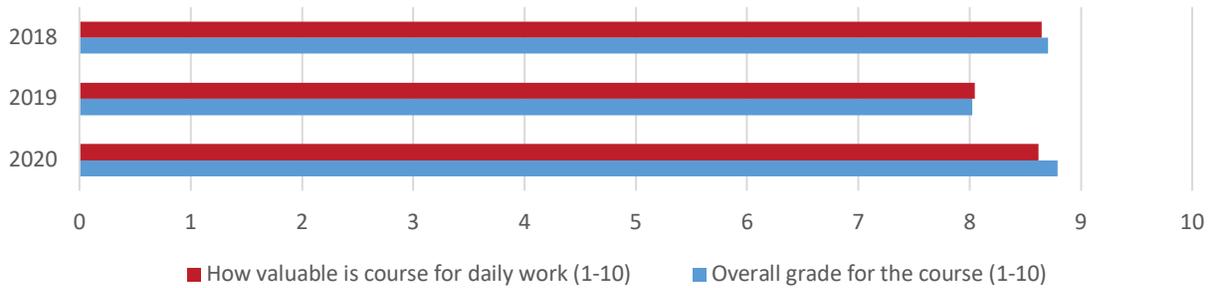
Table 1: An overview of the WMDA Educational courses

### 1.2 Course evaluation

The search coordinator basic level and advanced level course are finalized with a final exam and after this examination the students are encouraged to fill out an evaluation form to reflect upon the entire course. The graphs (Graph 1, Graph 2) below reflect the average grades the students gave when answering the following questions:

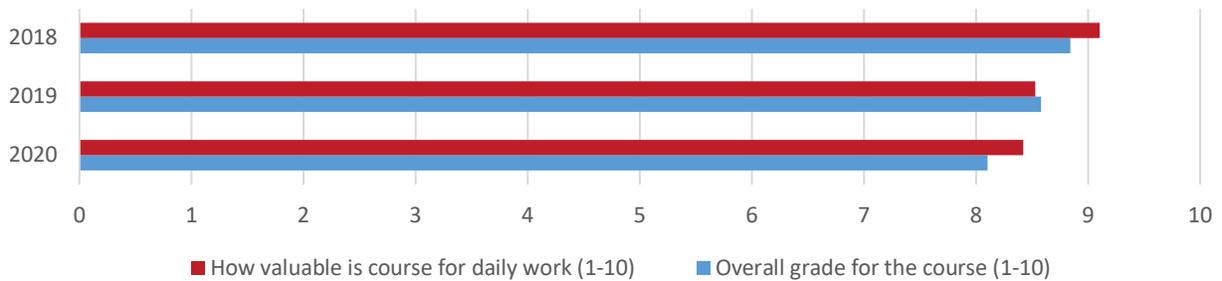
- 1) How would you grade the whole course and
- 2) on a scale of 1-10, how valuable was this course for your daily work.

**Search coordinator basic level course**



*Graph 1: rating of search coordinator basic level course*

**Search coordinator advanced level course**



*Graph 2: rating of search coordinator advanced level course*

In summary, the online education programmes are well accepted by the students. WMDA sees an increasing trend of new young professionals joining the online training courses. In order to be sure that the training course is relevant for WMDA member organisations and for professionals in the field, the WMDA has sent out a survey to the higher management of registries to understand their perspective as well. This survey has been described in chapter 3.1 of this deliverable.

## 2. Notable changes to the WMDA educational courses in 2020

In 2020 a SWOT analysis was carried out to identify the strengths, weaknesses, opportunities and threats of the educational program (Image 1). From this analysis various themes for improvement can be derived. Theme 1 is didactic improvement and learning paths, theme 2 is engagement of community and awareness and theme 3 is accreditation and recognition in the community. These three themes have been the key focus throughout 2020 to implement various changes to the educational program and to shape long-term plans for the continuation of improvement in 2021 and beyond.



**S**

- Consistently good ratings from students
- The program officially supported by EBMT
- Development by professionals active in the field
- Collaboration with EFI and EBMT
- Uniformity between search coordinators on a global scale
- Unique training that is not offered by other organisations or institutions

**W**

- The content is dependent on volunteers
- The content is static; no interactive sessions
- Recent developments and insights in the field are not included
- Education in other areas are under resourced
- Not recognised by academic program
- Communication/awareness can be improved
- Didactic insights are not used

**O**

- Stable income from students signing up
- Enhancing the program to move to an integrated course over several years
- Improving awareness by improving communication strategy
- Achieving access to EFI resources
- A more integrated relationship with EBMT and EFI
- Knowledge transfer between registries
- Start of monthly webinars

**T**

- The online education market is competitive
- Some registries do not have financial resources to pay the registration costs
- Delay in developing new materials
- Slow decision-making on a number of fronts, which affect the further development
- Lack of accreditation makes it less attractive
- Need for renewal of content
- Educational framework is not clear
- Students are not connected (no connecting events)

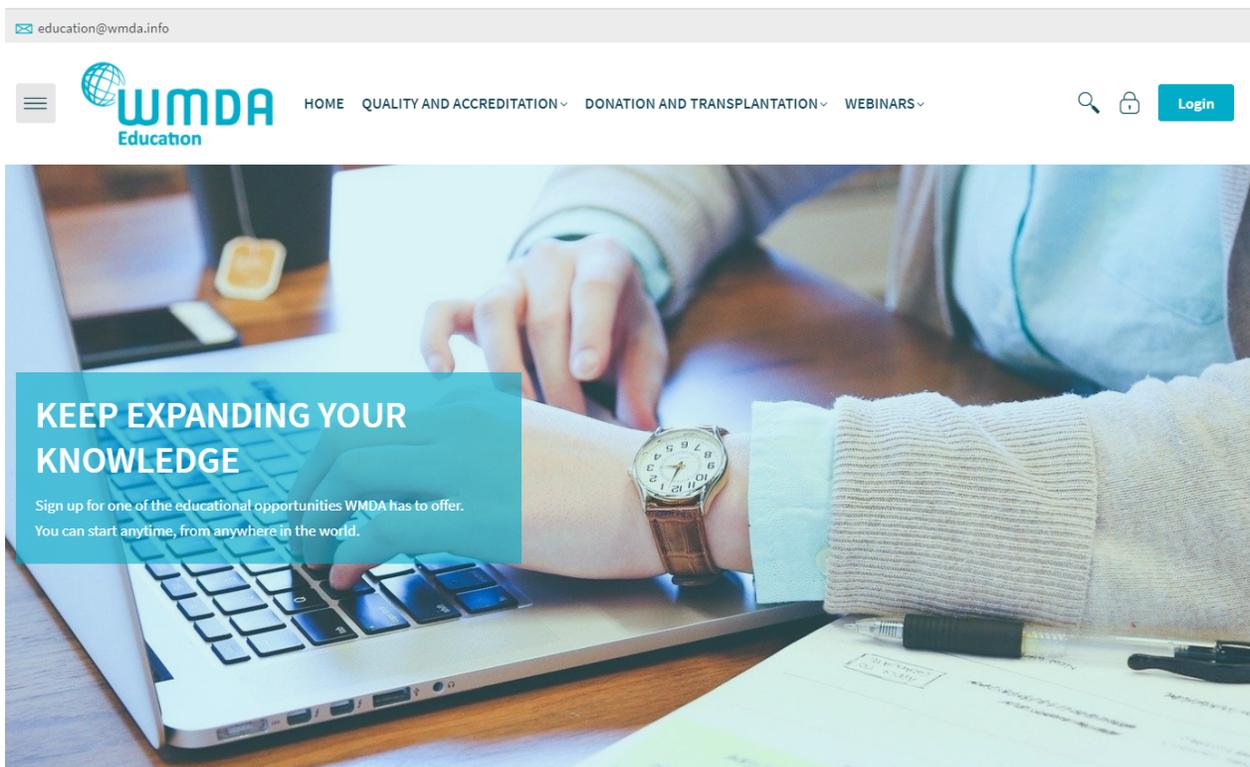
*Image 1: SWOT analysis of the WMDA educational program*

### 2.1. Theme 1: didactic learning

In 2020, the WMDA focused on the improvement of the content of the courses and the way in which this content is presented. A plan was formed to review and revise all content of the lectures to make sure it is up-to-date and it includes recent developments in the field. For this, the collaboration of the expert professionals is required and current lecturers have been approached to ask for their collaboration. Where necessary, a replacement is sought. For example, when a lecturer is retired.

For all modules a new content structure has been developed. In this structure lectures may last no longer than 20 minutes per recording and will be supported by up to date reading material and self-assessment questions. Where possible, interactive content will be created. Per module key elements for renewal will be identified and discussed with the lecturer. New recordings must then be made based on the proposed new structure and content. The plan is to have the renewal of all modules of the search coordinator basic level course complete by the end of Q2 2021.

To enhance the students e-learning experience and to facilitate the proposed content changes, an update was required of the educational platform on which the courses are offered. In the first half of 2020, an upgrade to place of the Moodle platform took place. A new template provides a more modern and professional look and feel to the website, whilst changes to the old settings have made it easier for students to navigate the course menu and to search for content (Image 2). Since the implementation of the new template, less questions have come in from students that have had issues with the platform (e.g., log in issues, unclear instructions, unable to find content).



*Image 2: The new Moodle environment for the WMDA education website*

### 2.2 Theme 2: awareness and engagement

To keep new students enrolling in the educational program they must be aware of the educational opportunities that the WMDA has to offer. For this, a new educational brochure was released (Appendix I). In this brochure, students or other interested parties can find more information on what courses are currently being offered, course curricula and pricing. This brochure is made freely available on the WMDA website and the WMDA education website.

Throughout the year, the WMDA has posted various promotional materials and announcements on social media and in the Stem Cell Matters newsletters.

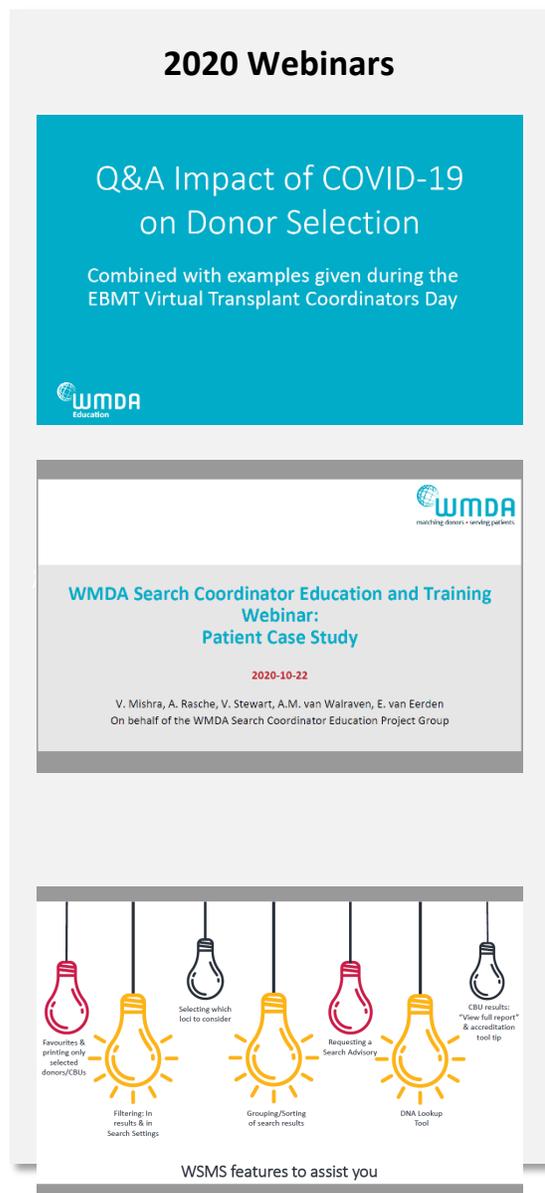
In 2020, a series of webinars was started to provide additional educational opportunities for those involved in a WMDA e-learning course. These webinars were intended to engage with the students and other audience members by providing the opportunity to ask questions to the expert hosts and to provide and to provide the opportunity to learn about topics not currently discussed in the WMDA education curricula. This series of webinars started in September 2020, and so far has covered:

- The impact of Covid-19 on donor selection
- A complicated case study discussion
- Search & Match Algorithms
- Christmas party – search coordination during pandemic

The webinars were well-received and the plan is to continue with the webinars in 2021.

### 2.3 Theme 3: accreditation and recognition

All changes and updates as discussed in 2.1 and 2.2 contribute to the recognition of the WMDA educational program as a necessary tool for all professionals working in the field of hematopoietic stem cells. This opens up the opportunity to explore what is needed to get formal recognition and/or accreditation by, for example, the European Hematology Association (EHA) or the Union Européenne des Médecins Spécialistes (UEMS). WMDA is currently reviewing the requirements to explore if this might be feasible in the future.



### 3. WMDA education – expansion of education courses

#### 3.1 Exploring the needs – what are the requirements of the WMDA members?

The development of an officially recognized education programme is in line with the vision of WMDA to ‘promote global collaboration and sharing of best practices between its members for the benefit of stem cell donors and patients’.

In 2020, the focus was to critically assess the current education materials and to identify areas to be improved. This has been described in chapter 2 of this deliverable.

WMDA has sent out a survey to all WMDA member organisation to identify the educational, training, and ongoing competency requirements of registry staff who perform allogeneic hematopoietic stem cell (HSC) search-related activities. A Search Coordinator (SC) is defined as any unrelated donor registry staff member whose responsibilities include, but are not necessarily limited to, activities surrounding the preliminary and formal stages of unrelated allogeneic search provided on behalf of patients seeking hematopoietic stem cell transplant. The SC role could include activities such as query of allogeneic donor/CBU databases, identification of potential donors/CBUs for further HLA typing, provision of immunogenetic services (search strategy and donor/CBU selection support), and/or graft selection.

The aim of the survey was to obtain information related to registry practices surrounding the recruitment and training requirements for staff who perform SC duties. Definition of SC activities and formalization of educational and training requisites needed to perform these duties will ultimately help to ensure excellence and consistency of allogeneic search services across WMDA registries, improving recipient care through expedition of search processes.

The SC responsibilities addressed in the survey are restricted to those surrounding donor registry and cord blood bank (CBB) search, provision of histocompatibility services, and donor/cord blood unit (CBU) identification and selection. Specifically, responsibilities fulfilled during the preliminary and formal stages of a patient’s allogeneic HSC search have been examined. See image 3 for the different duties of a search coordinator.

The survey was responded by 27 member organisations. Over 73% of the registries have registry staff member who have access to immunogenetics services for complex cases.

The survey identified areas to work on by WMDA:

- Option to skip the basic course, if candidate pass the exam. This option has been implemented in 2020, to allow experienced
- Compress the duration of the courses. This option has been implemented in 2020. Students can start any time, any day with the online education programme. In addition, they can follow the programme in their own speed.
- Offer accreditation/certification. WMDA has identified gaps to work on in order to get accredited by Union Européenne des Médecins Spécialistes (UEMS). Therefore, the decision has been taken

to modernize the content of the programme and to check the level of the programme with the UEMS requirements.

- Use of modern teaching methods: WMDA is implementing modern teaching methods, by shortening the video lectures of the teachers, do interactive assessments and having monthly face-to-face meetings.

**Recruitment, training, ongoing educational requirements for registry search coordinators**

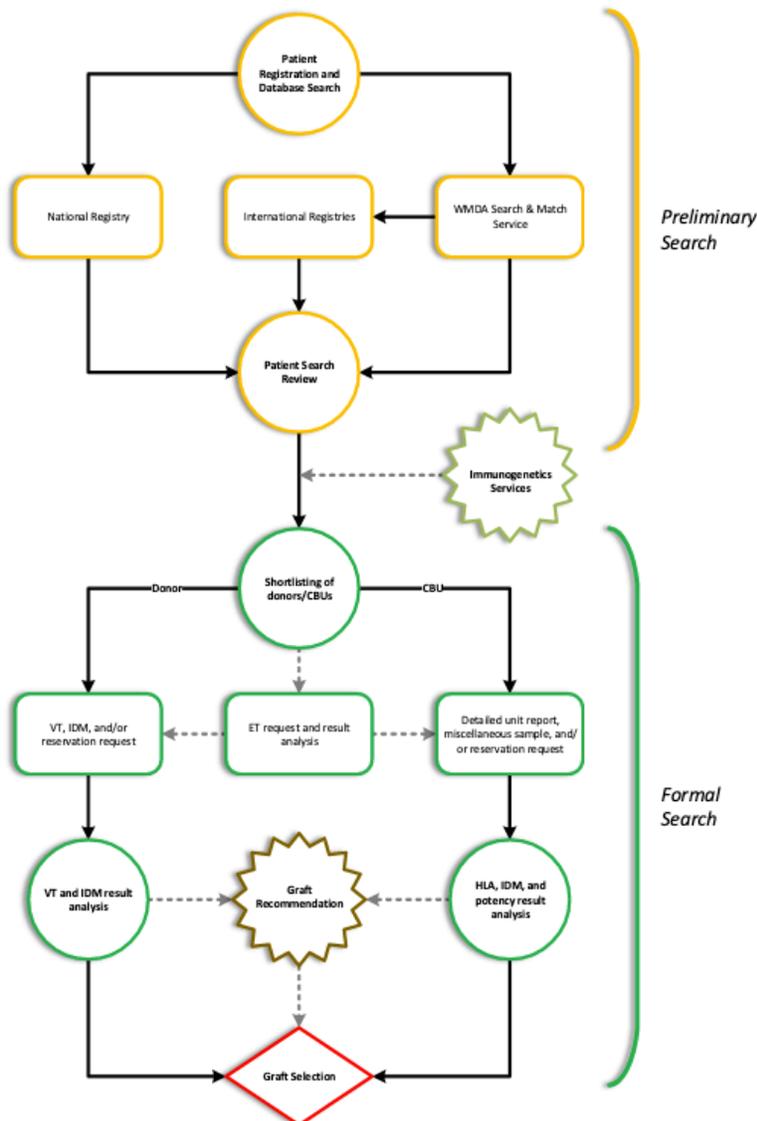


Image 3: Functions in the search process

### 3.2 Brainstorm sessions in 2020

WMDA organised several brainstorm sessions to get a good understanding on how to define a good education plan for all WMDA members. WMDA members were invited from different size of registries, different countries. Our aim is that WMDA supports members to develop and grow, so that more transplant patients find the most suitable match.

What does WMDA expect to see as a result of the activities, which will contribute to our intended impact.

- Knowledge, insight and experience is gathered and shared across the global community
- Members use WMDA as a 'one-stop shop' for support and advice
- Tailored tools and resources are available to facilitate the growth and effectiveness of all WMDA members
- New and growing registries have access to support and expertise of established registries.
- Members have access to research finding, best practice and data to inform strategies and delivery.
- WMDA facilitates dialogue and collaboration between member and national authorities/WHO to ensure a positive operating environment

The first two brainstorm sessions were focused on the current programmes and how to improve them. The later brainstorm was focused on broadening the education pillar in WMDA.

During the first brainstorm session (January 2020) the current education programmes were analysed and the feedback of the students. This has been described in chapter 1 of this deliverable.

The second meeting was focused on developing a SWOT analysis of the current education programme. This has been described in chapter 2 of this deliverable.

Based on the outcome of these two meetings a start was made to modernize the content of the current education programme and to modernize the platform, which is used to operate the education programme (as described in 2.1 and 2.2 of this deliverable).

In addition, WMDA would like to broaden the education therefore the brainstorm sessions were rebranded into monthly meetings to oversee the education activities within WMDA. Their goal is to explore how WMDA can broaden the education programmes and develop an education programme for all WMDA members with the main focus on function and young professionals.

### 3.3 Identify education streams

Within WMDA member organisations different type of staff members are employed, in addition WMDA members do have different services (as described in chapter 3.1). WMDA has identified the main roles in a registry and has defined a three year education programme that connects with international colleagues and educate in the latest developments in the field of stem cell donation.

The table below describes the roles that might work in a registry:

Who are working in a registry?	What could be educational materials?	How to bring to the students?
<ul style="list-style-type: none"> <li>- Donor/workup coordinator</li> <li>- Transplant coordinator</li> <li>- Search coordinator</li> <li>- Donor recruiter</li> <li>- Quality coordinator</li> </ul>	<ul style="list-style-type: none"> <li>- Community building</li> <li>- Online</li> <li>- Offline resources</li> <li>- WMDA 2.0</li> <li>- WMDA Handbook</li> </ul>	<ul style="list-style-type: none"> <li>- Summer school</li> <li>- Online workshops</li> <li>- Share inhouse training</li> <li>- Publications</li> <li>- Online platform</li> </ul>

For the each defined role a pathway has been developed. The pathway is a curriculum of several years to get familiar with the job and the international network. Find below the described pathways.

### DONOR/WORK UP COORDINATOR

#### Starting (< 1 year)

- WMDA SCCP Basic Programme (all modules)
- Attending WMDA Search Coordinator Day/Transplant Coordinator Day
- Webinar on the use of Search & Match Service
- Webinar how to upload data to the Search & Match Service
- Handbook chapter 1, 3, 4, 5

#### Experienced

- WMDA SCCP Advanced Programme
- Attending WMDA Search Coordinator Day/Transplant Coordinator Day
- Monthly WMDA webinars
- Opportunity to apply as WMDA reviewer

#### Expert

- WMDA Continuing Programme
- Attending WMDA Search Coordinator Day/Transplant Coordinator Day
- Monthly WMDA webinars
- Opportunity to apply as WMDA reviewer

**SEARCH COORDINATOR/TRANSPLANT COORDINATOR****Starting (< 1 year)**

- WMDA SCCP Basic Programme (all modules)
- Attending WMDA Search Coordinator Day/Transplant Coordinator Day
- Webinar on the use of Search & Match Service
- Handbook chapter 1, 3, 4, 5

**Experienced**

- WMDA SCCP Advanced Programme (all modules)
- Attending WMDA Search Coordinator Day/Transplant Coordinator Day
- Monthly WMDA webinars
- WMDA webinars for search coordinators (on recent literature)
- Opportunity to apply as WMDA reviewer

**Expert**

- WMDA Continuing Programme
- Attending WMDA Search Coordinator Day/Transplant Coordinator Day
- Monthly WMDA webinars
- WMDA webinars for search coordinators (on recent literature)
- Journal club
- Opportunity to apply as WMDA reviewer

**DONOR RECRUITER****Starting (< 1 year)**

- WMDA SCCP Basic Programme (selected modules)
- Webinar on the WMDA Donor Wiki
- Webinar on World Marrow Donor Day
- Handbook chapter 1, 2

**Experienced**

- WMDA SCCP Advanced Programme (selected modules)
- Monthly WMDA webinars
- WMDA webinars for donor recruiters

**Expert**

- WMDA Continuing Programme (selected modules)
- Monthly WMDA webinars
- WMDA webinars for donor recruiters
- Join WMDA communication group

## **QUALITY COORDINATOR**

### **Starting – trainee (< 1 year)**

- Online training (all modules)
- Trainee – desk review
- Trainee – onsite inspection
- Accreditation meetings

### **Experienced**

- In person training event - changed to weekly 15 minute webinars because of the pandemic
- On-line module and annual exam
- Preparing educational presentations
- Writing exam questions

### **3.4 Pandemic**

The COVID-19 pandemic changed our world. Connecting virtually has become mainstream and also innovation took place in the field of meeting virtually. WMDA anticipates that it will take some time before WMDA member organisations allow their member to travel internationally to big international congresses.

Organising virtual meetings is a cheaper way to connect and therefore it is also easier for emerging registries and young professionals to connect on an international level. WMDA has organised a virtual meeting week, as described in deliverable 2.2.

The pandemic caused a delay in getting input from the volunteer members, as they were heavily impacted by the pandemic. Because all WMDA members are healthcare professionals their time commitment for WMDA reduced significantly.

WMDA continued to work on the education platform and the modernisation of the training courses. In addition, the pathway (as described in 3.3) was not fully implemented. The main reason for that is that face-to-face meeting could not be implemented. Part of the programme are replaced by virtual alternatives.

The pandemic made us also aware that we need to think differently. Therefore, WMDA will restructure the pathways in 2021, with the view of the pandemic.

### **3.5 Future plans**

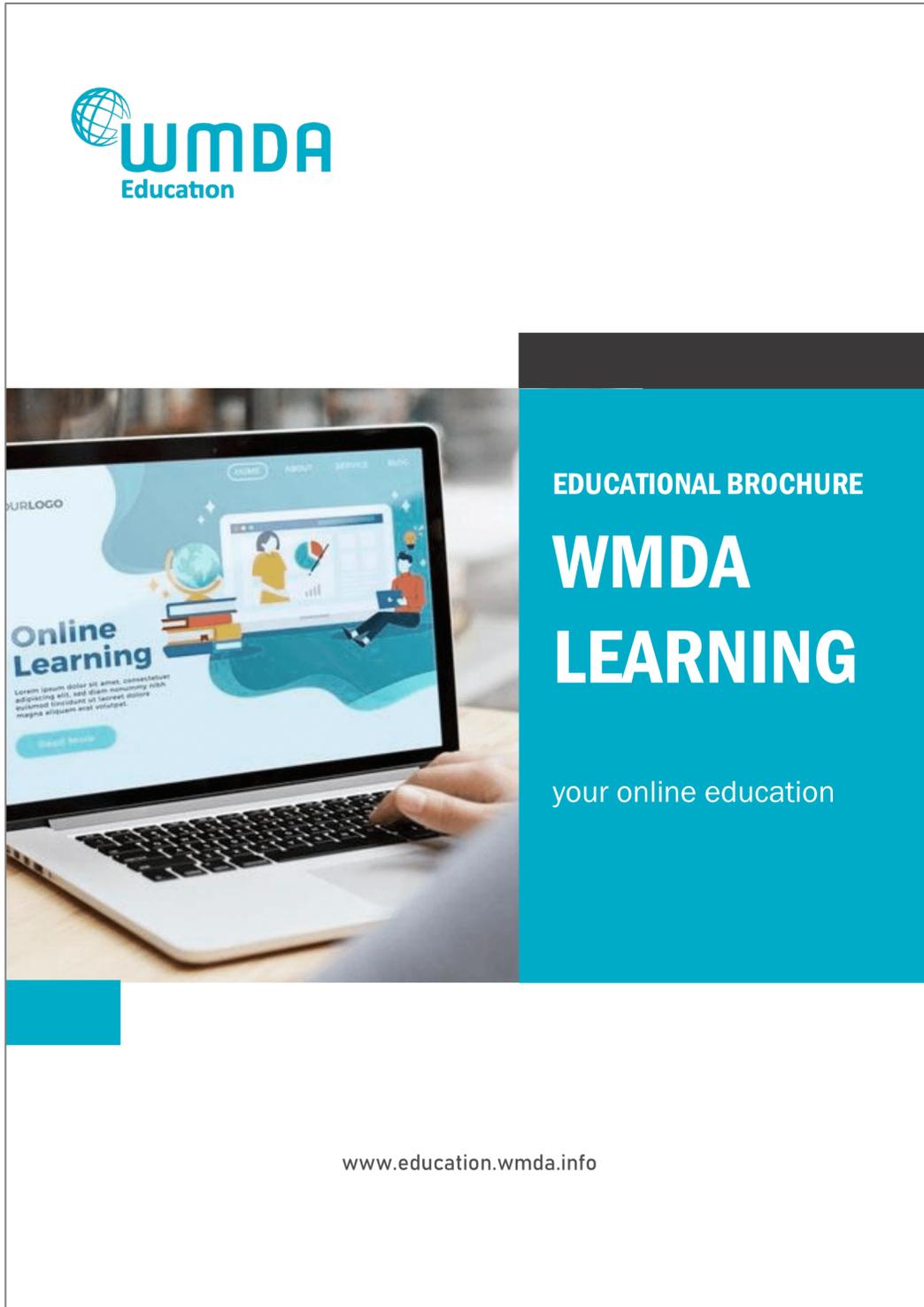
WMDA has identified two additional education streams that are currently not covered in paragraph 3.3. These areas will be explored in 2021. The first area is for medical experts within registries. WMDA would like to develop training courses on reporting of serious adverse events and reactions. The second area

are the emerging registries. WMDA has been contacted by several registries that are in the process of starting up or preparing for WMDA accreditation. They have questions that are currently not covered by the educational programmes. Therefore, WMDA would like to develop a separate stream for emerging registries to get them onboard as quickly as possible in the international field.

WMDA also identified that WMDA volunteers get increasing responsibility. The increasing data regulations, the accreditation of the accreditation programme and the growth of the organisation require also a good onboarding of WMDA volunteers. This will be an area that WMDA will continue to work on in 2021.

## 4. Appendices

## 4.1 Educational brochure 2020



# WHAT IS WMDA EDUCATION



**Educational.**

**Expert led.**

**E-learning.**

## Education is an important and constantly expanding resource of WMDA

The main advantages offered by online learning are the **flexibility for each student** to work **when and where they want**, and the possibility of connecting with a wide-reaching network of colleagues, peers, and experts in the field.



**Learn at times that are most convenient and productive for you!**

Taking a WMDA online course gives you a lot of freedom to plan your own schedule and to study at your own pace. The e-learning platform is designed to reach all WMDA members interested in their continuing education. experts in the field.

**When will you join online learning courses?**

## Member benefits

As a WMDA member you get discount on the e-learning. Interesting in becoming a WMDA member?

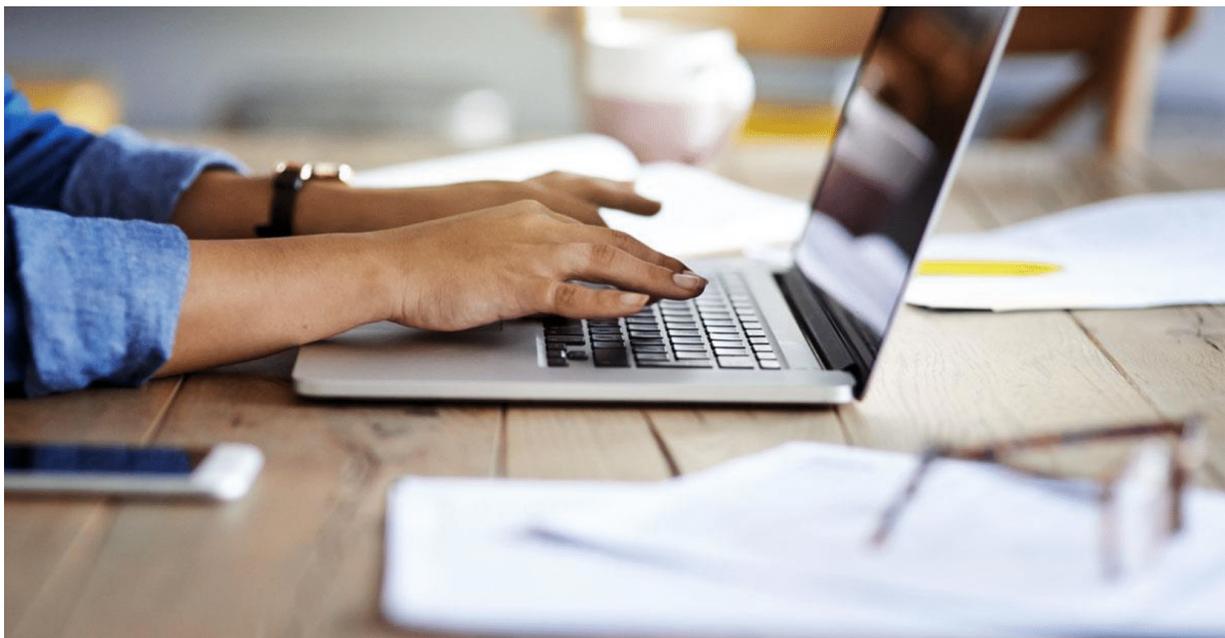
Go to [www.wmda.info/join-us](http://www.wmda.info/join-us)!

## online courses

The WMDA currently provides e-learning courses about Stem cell transplantation and donation AND Quality and accreditation. For people who are interested to gather background knowledge in the field of haematopoietic stem cell transplantation as well as for WMDA members who would like to know more about the WMDA accreditation programme and standards.

Pursue your interests by exploring our subject categories! The different categories of training course material packages we are offering:

- ❖ Stem cell transplantation and donation
- ❖ Quality and accreditation



## STEM CELL TRANSPLANTATION AND DONATION

Are you a health care professional involved in the selection of unrelated stem cell donors or cord blood units and would you like to enlarge your understanding and knowledge?

- ✓ Search Coordinator Certificate Programme Basic Level
  - Donor Coordinator Programme
- ✓ Search Coordinator Certificate Programme Advanced Level
- ✓ Search Coordinator Continuing Education programme

## QUALITY AND ACCREDITATION

Do you want to learn more about the WMDA Accreditation programme for international exchange of hematopoietic stem cell?

- ✓ WMDA Reviewers Training Programme
- ✓ WMDA Experienced reviewer education

**Course category**

# **STEM CELL TRANSPLANTATION AND DONATION**



## Search Coordinator Certificate Programme Basic level

| Stem cell transplantation and donation |  
| Search Coordinator Certificate Programme Basic Level | 9 modules |

The Search Coordinator Certificate Programme (SCCP) Basic Level will provide you with the **fundamental knowledge** about immunology, the hematopoietic system, and genetics, as well as more specific knowledge useful for performing your tasks in the field of stem cell transplantation and donation.



### WHY THIS COURSE?

For search coordinators and other professionals involved in stem cell donor selection, the course is almost considered mandatory to get a profound background for performing donor searches and to get a standardised level of expertise.

### WHO CAN PARTICIPATE?

- Starters who just started to work in the field of stem cell transplantation, to get a profound background and basic knowledge of haematopoietic stem cell transplantation.
- Professionals in the field of stem cell transplantations such as a donor recruiter, donor/transplant/search coordinator, laboratory technician, nurse, physician, or any other donor registry supporting positions for some years, to refresh your basic knowledge of haematopoietic stem cell transplantation.

## WHAT IS THE COURSE CURRICULUM?

If you sign up for the total course, you will receive access to 9 modules and a final exam. It is also possible to purchase selected modules only. Each module has a 1-hour lecture accompanied by a handout, a glossary and finishes with a multiple-choice test. Depending on your educational background, you will spend around 3-5 hours per module.

The final module tests consist multiple choice questions about the lecture and the recommended literature. You have 3 attempts to complete the test and the highest score will count. Once you have started with the test, there is no time limit in which the test should be completed.

After finishing the modules, you will receive a certificate as proof of your participation.

## WHO ARE THE SPEAKERS?

The speakers in the WMDA SCCP Basic Level are experts with many years of experience in research, clinical testing, patient care and knowledge of the field of haematopoietic stem cell transplantation.

## HOW TO REGISTER?

Go to [education.wmda.info](http://education.wmda.info) and find your course. After completing the registration form you will receive instructions on how to start the course.

### Course pricing

	<i>Total course*</i>	<i>Per module*</i>
<i>For EBMT/EFI/ WMDA members/staff members of WMDA member registries:</i>	€ 675.-	€ 75.-
<i>For non-members:</i>	€ 1,271.-	€ 141.25

\* Prices are excluding VAT. An invoice will be sent into all persons who have registered for the course

## Detailed course outline

The modules consist of a lecture of approximately 1 hour, accompanied by a handout, a glossary, recommended literature and finishes with a multiple-choice test.

### MODULE 1 Cells and Haematopoietic System

*Course speaker(s):* Enric Carreras, MD, PhD Affiliation REDMO, José Carreras Foundation, Barcelona [ES]

Learn about the different types of stem cells, like embryonic and adult stem cells, and the differentiation of these stem cells into diverse cell types. The haematopoietic stem cells are discussed in more detail as well as their role and all blood cells and components that derive from these stem cells. Furthermore, the module describes diseases that arise from the haematopoietic stem cell lineage, the scientific basis behind haematopoietic stem cell transplantation, and the different sources with their pros and cons.

### MODULE 2 Medical Basics of Haematopoietic Stem Cell Transplantation

*Course speaker(s):* Bronwen E. Shaw, MBChB, PhD CIBMTR, Milwaukee [US]

Learn about the transplant procedures, including transplant indications, the preparatory treatments of the patient, post-transplant complications (like graft failure, Graft versus Host Disease, infection, relapse) and the importance of follow-up and monitoring of late post-transplant effects on the patient.

### MODULE 3 Registries and Cord Blood Banks

*Course speaker(s):* Evelyne Marry, MD Hematopoietic Stem Cell Department, Agence de la Biomédecine, Saint-Denis La Plaine Cedex, [FR]

Learn about the transplant procedures, including transplant indications, the preparatory treatments of the patient, post-transplant complications (like graft failure, Graft versus Host Disease, infection, relapse) and the importance of follow-up and monitoring of late post-transplant effects on the patient.

### MODULE 4 The Donor Experience

*Course speaker(s):* Anne-Marie van Walraven, PhD Sanquin Donor Services, Amsterdam [NL]

This module provides more information on the procedures around registration, donation and follow-up from a donor's perspective. We are usually focused on curing patients, but the donor's health needs to be protected as well with for example the WMDA standards and informed consents. The donor experience after donation might have a direct impact on the matched patient and on the donor registry.

**MODULE 5 Basic Concepts in Immunology**

*Course speaker(s):* Carolyn Hurley, PhD, D(ABHI) Department of Oncology, Georgetown University, Washington DC [US]

Learn about the basics of our immunology system, like the organs and cells that are involved, how the immune system recognises self and non-self-cells, how immune cells communicate, and the early (innate) and late-onset (adaptive) responses of the immune system to 'danger'. Also, the basic concepts of transplantation immunology are described, including graft rejection and Graft versus Host Disease.

**MODULE 6 Basic Genetics of HLA**

*Course speaker(s):* Carlheinz Müller, MD, PhD ZKRD, Ulm [DE]

Learn about the basic concepts of genetics, like the significance of HLA proteins on the cells in the haematopoietic stem cell transplantation. This module describes where you can find the genetic material coding for the HLA proteins, but also definitions like haplotype and diplotype, homozygous and heterozygous, recombination and mutations. Understanding population genetics can be useful in the search for an unrelated donor for your patient and calculations based on this can help to predict if a certain donor might be a match.

**MODULE 7 Human Leukocyte Antigens (HLA)**

*Course speaker(s):* Carolyn Hurley, PhD, D(ABHI) Department of Oncology, Georgetown University, Washington DC [US]

Learn about the role of HLA in the immune response against foreign tissues, the differences between HLA class I and class II and why we find so much HLA diversity in the human population. Also, the influence of HLA in some diseases, like infectious diseases and autoimmune diseases are explained as well as the interaction of HLA in drug toxicities.

**MODULE 8 HLA Matching**

*Course speaker(s):* Jean-Marie Tiercy, PhD Department of Genetics and Laboratory Medicine, University Hospital, Geneva [CH]

Learn about the selection of HLA matched haematopoietic stem cell donors. You learn about HLA compatibility, predicted HLA alleles on the HLA-B-C and HLA-DRB1-DQB1 associations and the clinical impact of transplantations with HLA mismatched donors or cord blood units. Also, several (online) databases where HLA alleles and haplotype frequency estimations can be found.

**MODULE 9 Search Strategy and Web Tools for Search**

*Course speaker(s):* Machteld Oudshoorn, PhD Matchis Foundation and Department of Immunohematology and Blood Transfusion, Leiden University Medical Centre, Leiden [NL]

Carolyn Hurley, PhD, D(ABHI) Department of Oncology, Georgetown University, Washington DC [US]

Learn about ways how search coordinators find the best-matched donor for the patients. This module explains how you should start a search for a stem cell donor by evaluating the patient's HLA, how to interpret search reports and select potentially matched donors for further testing. During the donor search, you can use many different web tools to evaluate the HLA of the patient or predict the HLA genotype and haplotypes from the potential donors. When and how to use those webtools is explained in this module as well as in the WMDA search tools guide.

## Donor Coordinator programme

| Stem cell transplantation and donation |  
| Donor Coordinator programme | 6 modules |

The Donor Coordinator Level will provide you with the **fundamental knowledge** about stem cells, collection procedures, indications for stem cell transplantation and human leukocyte antigens (HLA).

*If you want to learn more about the basic concepts of immunology, basic concepts of HLA and HLA Matching the Search Coordinator Programme Basic Level might be interesting for you!*



### WHY THIS COURSE?

The modules of the Donor Coordinator programme are part of the WMDA SCCP Basic level course and selected for the needs of donor coordinators to gather background knowledge valuable in their daily jobs.

### WHO CAN PARTICIPATE?

- Anyone working in a registry supporting functions with interests in stem cells, collection procedures, indications for stem cell transplantation and human leukocyte antigens (HLA).
- Donor coordinators who just started to work in the field of stem cell transplantation, to get a profound background and basic knowledge of haematopoietic stem cell transplantation.
- Professionals in the field of stem cell transplantations working as a donor coordinator, to refresh your basic knowledge of haematopoietic stem cell transplantation.

## WHO ARE THE SPEAKERS?

The speakers in the modules are experts with many years of experience in research, clinical testing, patient care and knowledge of the field of haematopoietic stem cell transplantation.

## WHAT IS THE COURSE CURRICULUM?

If you sign up for the total course, you will receive access to 6 modules and a final exam. It is also possible to purchase selected modules only. Each module has a 1-hour lecture accompanied by a handout, a glossary and finishes with a multiple-choice test. Depending on your educational background, you will spend around 3-5 hours per module.

The final module tests consist multiple choice questions about the lecture and the recommended literature. You have 3 attempts to complete the test and the highest score will count. Once you have started with the test, there is no time limit in which the test should be completed.

After finishing the modules, you will receive a certificate as proof of your participation.

## HOW TO REGISTER?

Go to [education.wmda.info](https://education.wmda.info) and find your course. After completing the registration form you will receive instructions on how to start the course

### Course pricing

	Total course*	Per module*
For EBMT/EFI/ WMDA members/staff members of WMDA member registries:	€ 300.-	€ 75.-
For non-members:	€ 565.-	€ 141.25-

\* Prices are excluding VAT. An invoice will be sent into all persons who have registered for the course.

## Detailed course outline

The modules consist of a lecture of approximately 1 hour, accompanied by a handout, a glossary, recommended literature and finishes with a multiple-choice test.

### MODULE 1 Cells and Haematopoietic System

*Course speaker(s):* Enric Carreras, MD, PhD Affiliation REDMO, José Carreras Foundation, Barcelona [ES]

Learn about the different types of stem cells, like embryonic and adult stem cells, and the differentiation of these stem cells into diverse cell types. The haematopoietic stem cells are discussed in more detail as well as their role and all blood cells and components that derive from these stem cells. Furthermore, the module describes diseases that arise from the haematopoietic stem cell lineage, the scientific basis behind haematopoietic stem cell transplantation, and the different sources with their pros and cons.

### MODULE 2 Medical Basics of Haematopoietic Stem Cell Transplantation

*Course speaker(s):* Bronwen E. Shaw, MBChB, PhD CIBMTR, Milwaukee [US]

Learn about the transplant procedures, including transplant indications, the preparatory treatments of the patient, post-transplant complications (like graft failure, Graft versus Host Disease, infection, relapse) and the importance of follow-up and monitoring of late post-transplant effects on the patient.

### MODULE 3 Registries and Cord Blood Banks

*Course speaker(s):* Evelyne Marry, MD Hematopoietic Stem Cell Department, Agence de la Biomédecine, Saint-Denis La Plaine Cedex, [FR]

Learn about the transplant procedures, including transplant indications, the preparatory treatments of the patient, post-transplant complications (like graft failure, Graft versus Host Disease, infection, relapse) and the importance of follow-up and monitoring of late post-transplant effects on the patient.

### MODULE 4 The Donor Experience

*Course speaker(s):* Anne-Marie van Walraven, PhD Sanquin Donor Services, Amsterdam [NL]

This module provides more information on the procedures around registration, donation and follow-up from a donor's perspective. We are usually focused on curing patients, but the donor's health needs to be protected as well with for example the WMDA standards and informed consents. The donor experience after donation might have a direct impact on the matched patient and on the donor registry.

**MODULE 5 Human Leukocyte Antigens (HLA)**

*Course speaker(s):* Carolyn Hurley, PhD, D(ABHI) Department of Oncology, Georgetown University, Washington DC [US]

Learn about the role of HLA in the immune response against foreign tissues, the differences between HLA class I and class II and why we find so much HLA diversity in the human population. Also, the influence of HLA in some diseases, like infectious diseases and autoimmune diseases are explained as well as the interaction of HLA in drug toxicities.

**MODULE 6 Search Strategy and Web Tools for Search**

*Course speaker(s):* Machteld Oudshoorn, PhD Matchis Foundation and Department of Immunohematology and Blood Transfusion, Leiden University Medical Centre, Leiden [NL]

Carolyn Hurley, PhD, D(ABHI) Department of Oncology, Georgetown University, Washington DC [US]

Learn about ways how search coordinators find the best-matched donor for the patients. This module explains how you should start a search for a stem cell donor by evaluating the patient's HLA, how to interpret search reports and select potentially matched donors for further testing. During the donor search, you can use many different web tools to evaluate the HLA of the patient or predict the HLA genotype and haplotypes from the potential donors. When and how to use those webtools is explained in this module as well as in the WMDA search tools guide.

## Search Coordinator Certificate Programme Advanced Level

| Stem cell transplantation and donation |  
| Search Coordinator Certificate Programme Advanced Level | 9 modules |

The Search Coordinator Certificate Programme (SCCP) Advanced level can support you to **increase your knowledge** and to **dive deeper** on subjects like HLA nomenclature, selection of mismatched donors and more complicated search cases for donors and cord blood units.



### WHY THIS COURSE?

When you do have experienced in the selection of unrelated stem cell donors, you might start to wonder about the selection methods and the evidence behind those methods and selection criteria. Some modules are also valuable for people not directly involved in donor selection, like donor recruiters, donor coordinators, transplant coordinators, laboratory technicians, nurses, physicians, or any other donor registry supporting position.

### WHO CAN PARTICIPATE?

The course is primarily meant for search coordinators and other professionals facilitating unrelated stem cell donor searches. However, some modules can also be valuable for people with other backgrounds working in the field of stem cell transplantation.

## WHAT IS THE COURSE CURRICULUM?

If you sign up for the total course, you will receive access to 9 modules and a final exam. It is also possible to purchase selected modules only. Each module has a 1-hour lecture accompanied by a handout, a glossary and finishes with a multiple-choice test. Depending on your educational background, you will spend around 3-5 hours per module.

The final module tests consist multiple choice questions about the lecture and the recommended literature. You have 3 attempts to complete the test and the highest score will count. Once you have started with the test, there is no time limit in which the test should be completed.

After finishing the modules, you will receive a certificate as proof of your participation.

## WHO ARE THE SPEAKERS?

The speakers in the course are experts with many years of experience in research, clinical testing, patient care and knowledge of the field of haematopoietic stem cell transplantation.

## HOW TO REGISTER?

Application to the SCCP Advanced Level can only be accepted if the SCCP Basic Level was successfully completed OR when you passed an entrance test. For the entrance test, we will invoice € 50,-.\*

Go to [education.wmda.info](http://education.wmda.info) and find your course. After completing the registration form you will receive instructions on how to start the course.

### Course pricing

	<i>Total course*</i>	<i>Per module*</i>
<i>For EBMT/EFI/ WMDA members/staff members of WMDA member registries:</i>	€ 675.-	€ 75.-
<i>For non-members:</i>	€ 1,271.-	€ 141.25-

\* Prices are excluding VAT. An invoice will be sent into all persons who have registered for the course.

## Detailed course outline

The modules consist of a lecture of approximately 1 hour, accompanied by a handout, a glossary, recommended literature and finishes with a multiple-choice test.

### MODULE 1 HLA Nomenclature and typing techniques

*Course speaker(s):* Ann-Margaret Little, PhD, SRCS, FRCPath H&I Service, Gartnavel General Hospital, Glasgow [UK]

*Course content:* Why do we see so many different results on HLA reports, like HLA-A2, A\*02:01, A\*02: HJWK? In this module, you will learn how the HLA nomenclature works and about the relationship between the different techniques used for HLA typing. Also, the definition of ambiguities is explained and how to deal with those ambiguities in reporting HLA typing results.

### MODULE 2 Selecting an HLA mismatched donor

*Course speaker(s):* Effie Petersdorf, MD Fred Hutchinson Cancer Research Center, Seattle [US]

*Course content:* Sometimes a matched unrelated stem cell donor is unfortunately not available. In that case, stem cells from a mismatched unrelated donor might be the only option to treat the patient. What are the risks of transplantation with a mismatched stem cell donor? Could it be more beneficial in some diseases to use an HLA mismatched donor over a matched donor due to an anti-leukaemia effect? Which HLA mismatches should be avoided when you select a mismatched donor according to the literature? During this module, all those questions will be discussed and answered.

### MODULE 3 Beyond HLA: What non-HLA characteristics are being considered in donor selection today?

*Course speaker(s):* Bronwen E. Shaw, MBChB, PhD CIBMTR, Milwaukee [US]

*Course content:* You already know that HLA compatibility is the major selection criterium for matching patients to stem cell donors. However, when you have more than one HLA matched donor, which other non-HLA factors should we take into consideration and which ones are more important than others? Non-HLA factors like gender, CMV, blood group and age will be discussed, including their effects on transplantation outcome.

### MODULE 4 The role of HLA in cord blood transplantation

*Course speaker(s):* Mary Eapen, MD, MS Medical College of Wisconsin, Milwaukee, USA CIBMTR, Milwaukee [US]

*Course content:* Selection an unrelated stem cell donor is a different procedure than selecting a cord blood unit. HLA matching is important for both procedures, but for cord blood units the cell dose is also a major selection criterion. The lecture explains the influence on survival of different cell doses and HLA matching as well as the single unit and double-unit cord blood transplantation.

**MODULE 5 Non-HLA aspects of umbilical cord blood unit selection**

*Course speaker(s):* Sergio Querol, MD, PhD REDMO, Barcelona Cord Blood Bank, Barcelona [ES]

*Course content:* What processes and factors can influence the quality of a cord blood unit? And what is the effect on engraftment? Very useful information when you are involved in the selection of cord blood units for your patients. Also, the interpretation of cord blood unit reports is explained as well as the Eurocord recommendations for cord blood unit selection.

**MODULE 6 Science behind OptiMatch Search and Genotype Prediction Algorithm**

*Course speaker(s):* Hans-Peter Eberhard, PhD ZKRD, Ulm [DE]

*Course content:* Many search coordinators and other professionals involved in donor selection are using the WMDA Search & Match Service. In this programme, a search algorithm, called OptiMatch, predicts the chance that a donor of a cord blood unit will match on HLA with your patient. But how does such an algorithm work and based on what information are the probabilities calculated? You will get more insights of the results shown in the Search & Match Service in this module.

**MODULE 7 Case studies on donor search I**

*Course speaker(s):* Jason Dehn, MPH, CHT BeTheMatch/ NMDP, Minneapolis MN [USA]

*Course content:* As professional selecting donors for stem cell transplantations, you've probably dealt with several or multiple difficult search cases. During this lecture, 2 complicated cases are presented with their search strategy to select a potential matched donor or cord blood unit.

**MODULE 8 Case studies on donor search II**

*Course speaker(s):* Machteld Oudshoorn, PhD Matchis Foundation and Department of Immunohematology and Blood Transfusion, LUMC [NL]

*Course content:* This module shows you the importance of questioning the HLA typing results of the patient especially when the results show multiple rare alleles. Also, the ethnicity of the patient and donors might be useful to predict HLA matching as allele and haplotype frequencies are usually specific for populations/ ethnicities. With the help of several cases, tips, tricks and pitfalls are presented and explained.

**MODULE 9 Deciding on Stem Cell Source and the Back-up Donor**

*Course speaker(s):* William Hwang, MD Singapore Cord Blood Bank, Singapore [SG]

*Course content:* What do physicians consider when deciding on stem cell source for their patient in need of a stem cell transplant? For stem cell transplantation different sources can be used, like bone marrow, PBSC or cord blood. Which source is most appropriate for a patient, is based on studies on differences in engraftment, Graft versus Host Disease and survival, but also on the disease and disease stage of the patient? However, we should also consider the risks of collection of the different sources for the donors.

## Search Coordinator Continuing Education programme

| Stem cell transplantation and donation |  
| Search Coordinator Continuing Education programme | 4 modules |

The WMDA developed the Search Coordinator Continuing Education programme for professional working in the field of blood stem cell transplantation who want to stay up to date with the latest developments in the field.



### WHY THIS COURSE?

A project team of the WMDA pillar “Supporting Global Development” in collaboration with the WMDA office and international content experts prepared this programme and we hope that this programme will be a useful addition to your knowledge and expertise and will be beneficial for your daily work.

### WHO CAN PARTICIPATE?

This course is for professional working in the field of haematopoietic stem cell transplantation. This programme is valuable for anyone working in this field.

### WHAT IS THE COURSE CURRICULUM?

This course is based on a subscription for the total course. It is possible to purchase selected modules only. If you sign up, you will receive access to 8 modules. In general, the modules can be subdivided into 2 formats:

1. The module contains a lecture, handout file with the slides, multiple-choice test and evaluation.
2. The module is based on online information and sources from external websites and include guidance, multiple-choice test and evaluation.

Depending on your educational background, you will spend around 3-5 hours per module.

After finishing the modules, you will receive a certificate as proof of your participation.

### WHO ARE THE SPEAKERS?

The speakers of the (module(s) containing a lecture) are experts with many years of experience in research, clinical testing, patient care and knowledge of the field of haematopoietic stem cell transplantation.

### HOW TO REGISTER?

Go to [education.wmda.info](http://education.wmda.info) and find your course. After completing the registration form you will receive instructions on how to start the course.

#### Course pricing

	<i>Total course*</i>	<i>Per module*</i>
<i>For EBMT/EFI/ WMDA members/staff members of WMDA member registries:</i>	€ 300.-	€ 75.-
<i>For non-members:</i>	€ 565.-	€ 141.25-

\* Prices are excluding VAT. An invoice will be sent into all persons who have registered for the course.

## Detailed course outline

The modules consist of a lecture of approximately 1 hour, accompanied by a handout, a glossary, recommended literature and finishes with a multiple-choice test.

### MODULE 1 Obstacles to Donation- Donor Health Issues

*Course speaker(s):* Hung Yang, MD Australian Bone Marrow Donor Registry, Alexandria [AU]

*Course content:* This module describes the principles of donor health assessments, including the risk for both the donor and the patient/recipient, the different stages and time points when donor health assessments occur, and examples of identified donor health issues.

### MODULE 2 Hematologic System Diseases

*Course speaker(s):* Effie Petersdorf, MD Fred Hutchinson Cancer Research Center, Seattle [US]

*Course content:* In this module, you will learn more about hematologic system diseases, like anaemia, leukaemia, plasma cell dyscrasias and myeloproliferative diseases. The module describing the main characteristics of the following hematologic system diseases: 1) Anaemia 2) Leukaemia 3) Plasma cell dyscrasias 4) Myeloproliferative diseases.

### MODULE 3 Basic Biology and Genetics of Killer Cell Immunoglobulin Like Receptors (KIR)

*Course speaker(s):* Carolyn Hurley, PhD, D(ABHI) Department of Oncology, Georgetown University, Washington DC [US]

*Course content:* This module describes the biology behind the natural killer (NK) cell response and the function of Killer Cell Immunoglobulin-Like Receptors in normal situations and in relation to haematopoietic stem cell transplantation.

### MODULE 4 Transplant Indications and Outcomes

*Course speaker(s):* Mary Eapen, MD, MS Medical College of Wisconsin, Milwaukee, USA CIBMTR, Milwaukee [US]

*Course content:* In this module, you will learn more about disease-specific indications for haematopoietic stem cell transplant and outcomes.



**Course category**

# **Quality and accreditation**



## WMDA Reviewers Training Programme

| Quality and accreditation |  
| Donor Coordinator programme | 16 modules |

This unique programme is developed to get trained in the WMDA Standards and the WMDA accreditation programme.



### WHY THIS COURSE?

The programme gives tips and tricks on how to prepare an application. If your organisation is planning to prepare an application for WMDA certification, qualification or accreditation, we recommend signing up for the WMDA reviewers training programme. This tips and tricks will reduce time, in the process of preparing an application.

### WHO CAN PARTICIPATE?

- New potential WMDA reviewers.
- Staff preparing for WMDA certification, accreditation or qualification

### WHAT IS THE COURSE CURRICULUM?

The initial training is the completion of 16 online learning modules and covers: WMDA Standards; WMDA Accreditation; WMDA Certification and WMDA Qualification; Accreditation Policies and Procedures; On-site Audits.

Each module consists of documentation that the student should read and get familiar with. After successful completion of the module test, the student will receive credit for that module.

## HOW TO REGISTER?

Go to [education.wmda.info](https://education.wmda.info) and find your course. After completing the registration form you will receive instructions on how to start the course.

### Course pricing

*For staff members of WMDA aspirant, provisional or regular member organisations*

Free

*For non-members:*

€ 128.-\*

\* Prices are excluding VAT. An invoice will be sent into all persons who have registered for the course.

### WANT TO BECOME A REVIEWER?

WMDA is looking for enthusiastic professionals who want to become a reviewer. If you are considering becoming a reviewer, please ensure you are well-informed and read more about becoming a reviewer on WMDA Share, WMDA's online collaboration tool.

When you meet the criteria to become a reviewer a next step is to enrol as a trainee reviewer. The WMDA Reviewer Training Programme prepares you to become a trained reviewer. As WMDA reviewer, you will receive professional and personal benefits.

Questions or more information sent an email to [accreditation@wmda.info](mailto:accreditation@wmda.info)



[www.education.wmda.info](http://www.education.wmda.info)