

# Research and Reporting Highlighted needs in Medical Education

## Turkish National Report

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## ABSTRACT

This report aims to develop common references for VET in orthopedics and rehabilitation.

The Document introduces a brief picture of learning needs in Orthopedics and Rehabilitation Profession and e-learning training approaches, by a national research, study and analyses on labour market demands based on surveys and questionnaires addressed to the target group and potential users

A further analysis of training expectations and lacks is available as well.

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## 1.1. Purpose of the report

Increasing the quality of vocational skills requires the development of world-class VET systems. Increasing transversal and basic skills alone will not be sufficient to generate growth and competitiveness, and there is still too much distance between the educational environment and the workplace. VET must be able to react to the demand for advanced vocational skills, tailored to the regional economic context. It also needs to be an open door for those who want to access higher education, as well as individuals who need to update skills

The need for harmonisation development of an unitary system in medical education across Europe with common standard procedures is a well known fact. All EU medical graduates should have equal chances to practice all over EU. Our project focuses on the project partners' identification of common needs that EU educational and training systems are facing and that can be met only by a common effort.

The present report represents a national research on labour market demands for Turkey, aiming to reflect needs' identification for our target group on the use of the orthopedic and rehabilitation procedures at work place, based on surveys and questionnaires.

In order to attain this goal, analysis of learners' actual knowledge and of knowledge needs for identifying the current performances and gaps was carried on, as well as analysis of the VET in orthopedics and rehabilitation, correlated with the use of orthopedic and rehabilitation procedures in practice. The last part of the report tries to identify the ways for introducing orthopedic surgical procedures and rehabilitation protocols after surgery into the work environment. The aim of this report has a special value as needs analysis is essential for the development of the COR-skills project; the project is designed to provide solutions to clearly identified needs of the target groups and this is the reason we have dedicated a report for needs assesment. Even if the project includes an ex-ante analysis of the needs on EU context, this was based on EU literature, reports and researchers for medical education in general and previous needs assesment in ORTHO e-man. Needs assesment of the target group will now

focus on specific issues (orthopedics, rehabilitation, gait assessment) and must be carried on in order to integrate further outcomes of COR-skills project into national and/or sectoral training systems.

In this way the present research aims to:

1. Analyze the vocational training needs in orthopaedics and rehabilitation and state of art of medical e-learning in Turkey;
2. Define the needs of the target group
3. Identify the current interest level to e-learning of the target group;
4. Describe the reference levels, certification principles and VET methods and programmes in the field of orthopedics in Turkey

Identification of initial requirements must be followed by their validation against the project objectives, identification of best solutions how this will be achieved and identification of best resources and tools in order to create an interdisciplinary on-line collaborative platform with specific learning tools and content, supporting participants in acquisition of skills in the field of orthopedics and rehabilitation directly linked to their needs, expectatives and labour market requirements.

## 1.2. Target Group

### 1.2.1. Foreseen target groups and indicators

According to project work plan and indicators, Turkish direct target group (primary target group) includes organizations and individuals that will be direct users of the project results. For Turkey we foresee about 50 trainees for both training modules represented by: medical doctors in orthopedics and rehabilitation, physiotherapists. The medical professionals can be on different levels of training and different working places (specialists, residents).

In terms of organisations the target includes:

- Vocational training organizations and other training providers
- Universities, colleges and other providers of medical education
- Public and private health institutions
- Professional associations (ENT-PROFS)

The indirect Target Group (secondary target group) includes individuals and organizations related to the direct target group of the project, as follows:

- Staff in the medical educational system in participant countries, including individuals with local responsibility for educational programs at all levels of the continuum — for example, deans and their staff, department chairs, and responsables for resident training programmes in orthopedics and rehabilitation from organizations with whom project partners are networking.

- Institutional officials at clinical orthopedics and rehabilitation departments, as directly interested in CME of their employees
- Accreditors, certifying and licensing bodies. Organizations that accredit educational programs/providers at continuing level of medical education
- Medical education and related associations in the field of orthopedics and rehabilitation; national organizations

This group will function as key stakeholders and will be involved in dissemination activities, evaluation of outcomes, in reaching the target group. Reaching this group will be done by the networks of each partner organisation. For Turkey we estimate:

- Min 5 institutional officials/managers

- Min 6 professionals in the medical educational system
- Min 5 members of professional organisations and accreditors

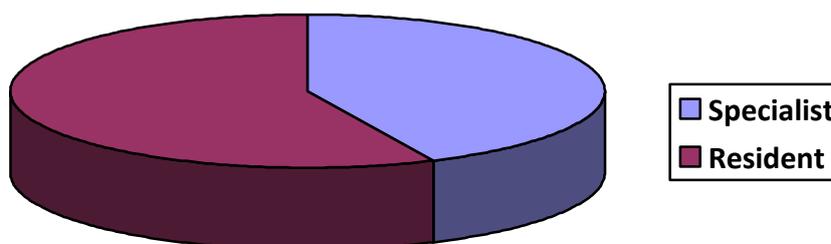
Long-term beneficiaries are certain interest groups that will benefit from the project outcomes on a long term basis like medical doctors that will benefit of the training program after the project ends, due to inclusion of courses into CME. The dissemination plan indicates scanning activities to identify broader target groups with a potential interest in the results, so they will be targeted by our dissemination as potential trainees after the end of the project. The estimated number of persons for Turkey is min. 50/year.

### 1.2.1. Target group respondents

The number of respondents, from each category mentioned above was:

- 22 medical doctors in orthopedics (specialists) and 29 residents in orthopedics

For the orthopaedic target group:



Regarding the age of respondents we registered the following groups:

Age (years)	20-35	36-50	Over 50
Nr. Of respondents	29	18	3

### 1.3. Evaluation Methodology

Turkish National Report has been conducted by disseminating needs assessment questionnaire in scientific meetings and analyzing the results. Documentary research was done for regulations of specialty education.

#### FIELD WORK

A specific type of questionnaire which has been designed for orthopedics category of the target group was disseminated. Questionnaires were developed, taking into consideration the structure of the target group. In this way we have developed 3 types of questionnaires administered to representatives of target group (Medical doctors in orthopaedics, Rehabilitation Professionals, Managers and Academic Medical Staff) - annex 1-3. The Turkish part of the partnership shares orthopedics part with the Romanian partner. Thus the questionnaire prepared for orthopedics was used.

The aim of these questionnaires was to evaluate the perceived level of IT ability and accessibility, the experiences and attitudes of the target groups towards e-learning and clinical skills training.

Questionnaires were distributed via various means: by direct contact (during meetings, courses, team building, etc), by email or, in few cases, as a basis for phone interviews. E-mails to invite to contribute to the survey and fill the questionnaire have been sent to the main contacts representatives of target group.

The respondents were contacted from February 15th to March 15th. Afterwards, responses provided have been collected, processed and summarized.

#### DOCUMENTARY RESEARCH

An online documentary research was done through the legal regulations pages about postgraduate specialty education in Turkey.

## 1.4. Evaluation Results

### 1.4.1. For Orthopedics Professionals

Number of respondents: 51

Question 1. Referred to the periodicity of accessing the internet and 98% stated that they accessed the internet daily. The remaining 2% accessed 2-3 times a week. This shows that internet usage has become a habit for most people and a platform based on the internet might be readily accessed by the willing participants.

Question 2. Refers to the use of the internet for improving the professional career. The respondents gave different answers, enlisting most of the respondents as using daily/weekly the Internet. This question also encourages an online platform development.

Daily	75%
Weekly	23%
Monthly	2%

Question 3. Evaluates familiarity with e-tools, and, according to the professional levels of the respondents, the answers covered the whole range.

	Never heard of it	I have heard but never used it	I can manage with help	I can use it
Chat	11%	16%	0%	73%
Wiki	26%	16%	6%	52%
Audio conferencing	8%	20%	39%	33%
Video conferencing	4%	22%	31%	43%
Forum	2%	10%	25%	63%
E-mail groups	0%	4%	8%	88%
Internet Mobile/ mobile learning	2%	6%	12%	80%

Chat applications, forums, e-mail groups and mobile internet / learning are used by most of the participants. Residents are more familiar with web based learning, and as age increases classical methods are more preferred, which is as expected.

Question 4. Refers to the main categories of information that the medical professionals require and how often they use them.

The answers showed that participants generally required information about the daily or weekly news. Most participants also required scientific knowledge and conducted researches frequently. 86% of the participants sought for knowledge in clinical issues and 82% of these required these daily. This especially is important for the aim of this project. Medical legislation was the least required knowledge type.

Clinical issues	86%	Daily 82%	Weekly 18%	Monthly 0%
Medical Legislation	61%	Daily 13%	Weekly 13%	Monthly 74%
Medication	71%	Daily 19%	Weekly 44%	Monthly 37%
Medical events	84%	Daily 30%	Weekly 37%	Monthly 33%
News Publications	98%	Daily 50%	Weekly 36%	Monthly 14%
Science & Research	96%	Daily 57%	Weekly 35%	Monthly 8%

Question 5. Tries to make an overview regarding the means that the target group would prefer to improve their professional career. Classical courses were still the preferred means of learning. Only 37% preferred e-learning. This shows that e-learning has to be popularized in Turkey.

Classical courses 69%    Workshops 51%    e learning 37%

Question 6. Evaluates the interest of respondents in e-learning. 75% of the participants were interested. Attractive and valuable platforms would increase this rate.

Question 7. Explores the interest of respondents in mobile learning. 75% were interested in mobile learning. This rate is not satisfactory and might be because of lack of native language sources.

Question 8. Refers to the target group interest regarding e-learning and the domains of interest and the answers showed that 47% of respondents looked for e-learning courses in Internet until the moment. Mostly used domains included surgical videos and comprehensive textbook information formatted for quick

reference which are also designed for ease of finding and reading the required information.

47% Yes                      53% No

Frequently used domains

Vumedi 24%  
Orthobullets 24%  
AOSurgery 20%  
Wheeless 6%  
Pubmed 4%  
AAOS 4%  
Medscape 2%  
EFORT 2%

Question 9. Explores the amount of time that our target group think are necessary to refresh their knowledge and improve skills and competencies. The great range of responses went for 200-300 hours followed by 300-400 hours. Most people believe that approximately 1 hour studying per day is necessary.

0 – 49 : 2%  
50 – 99 : 8%  
100 – 149 : 12%  
150 – 199 : 2%  
200 – 299 : 16%  
300 – 399 : 18%  
400 – 499: 6%  
500 – 599: 8%  
>600 : 12%

Question 10-11. Evaluate the disponibility of the respondents in using an e-learning platform for continuous education on payment basis. 98% of the respondents turned to free online platform, while 59% were willing to pay for such a service if it was worth.

Question 12. Regards the language for the course information. 78% preferred native language but 66% could use information in English.

Turkish: 34%  
English: 22%  
Turkish or English: 44%

Question 13. Aimed to identify the lower limb pathology that would interest mostly the target group. Most of the respondents were interested in both degenerative and post-traumatic pathologies.

Congenital	Yes 49%	No 51%
Post-traumatic	Yes 90%	No 10%

Inflammatory	Yes 47%	No 53%
Degenerative	Yes 82%	No 18%
Tumoral	Yes 45%	No 55%

Question 14. Asked if orthopedic surgeons were interested in gait analysis. More than half did not think that it was necessary.

Question 15. Refers to the specificity of methods that the respondents would be interested in. Knee and hip disorders frankly attracted more interest.

Hip trauma	Yes 88%	No 12%
Hip osteoarthritis	Yes 86%	No 14%
Knee trauma	Yes 90%	No 10%
Knee osteoarthritis	Yes 88%	No 12%
Surgery for neuro-muscular disorders	Yes 33%	No 67%
Ankle osteoarthritis	Yes 49%	No 51%
Fractures of tibia and ankle	Yes 75%	No 25%
Ankle arthrodesis	Yes 49%	No 51%
Diabetic foot	Yes 43%	No 57%
Congenital and developmental disorders	Yes 47%	No 53%
Fractures of the calcaneum	Yes 67%	No 33%
Bone tumors	Yes 43%	No 57%

Question 16. Asked about the most probable subjects that would interest the participants in e-learning. Most attractive subjects were again hip and knee surgeries.

Diaphyseal fracture fixation	Yes 65%	No 35%
Articular and peri-articular fracture fixation	Yes 90%	No 10%
Hip arthroplasty	Yes 90%	No 10%
Knee arthroplasty	Yes 84%	No 16%
Knee osteotomy	Yes 73%	No 27%
Hip osteotomy	Yes 55%	No 45%
Ankle arthrodesis	Yes 37%	No 63%
Tenotomies and capsulotomies	Yes 51%	No 49%
Ligamentous surgery	Yes 65%	No 35%

Question 17. Asked opinion to orthopedic surgeons about which part of their practice gait analysis would be useful. Most thought that it would be useful in evaluation of the patient rather than the surgical procedure itself.

Patient evaluation	Yes 90%	No 10%
Pre-operative planning	Yes 71%	No 29%
Establish the timing of surgery	Yes 37%	No 63%
Guiding post-op rehabilitation	Yes 76%	No 24%
Predicting the onset of complications	Yes 41%	No 59%

Question 18. Evaluated success perception of the surgeons. Good functional results and re-integration of the patient to previous life was accepted by nearly all.

Good functional result	Yes 98%	No 2%
No complications	Yes 88%	No 12%
Social and professional re-integration of the patient	Yes 98%	No 2%
Radiological healing, no matter the functional result	Yes 35%	No 65%

Question 19. Determined the demographics of interest distribution among the participants. In general most surgeons were interested in all aspects of the surgical procedures.

Indications for each procedure	Yes 92%	No 8%
Surgical approach	Yes 88%	No 12%
Necessary instruments	Yes 63%	No 37%
Bone preparation	Yes 57%	No 43%
Implant positioning	Yes 82%	No 18%
Tips and tricks	Yes 88%	No 12%
Possible failures and complications	Yes 92%	No 8%

Question 20 – 21 - 22. Evaluates the use of human gait analysis in practice. Although 47% of the respondents were familiar with gait analysis 69% did not use it in practice. And only 8% used computerized gait analysis. But 75% were eager to find out more about the technique.

Question 23 – 24. Explore the interest of the target group in sharing their knowledge by a Forum on medical topics and sharing experiences for second opinion. 94% of respondents showed a great interest in using a forum on medical topics, meanwhile 94% of them are interested in getting a second opinion on on-line basis.



### 1.5. General Overview of the Process - Results assessment and interpretation

Analysing the field survey results and the documentary research, the general conclusions could be gathered in the following categories:

- The knowledge of new means for training/assessment must be continuously updated;
- The knowledge of theory and its empirical use and terminology;
- Use of training/assessment methods and tools which fit the medical areas;
- The impact of assessment on the teaching/learning process and on teacher/instructor;
- The continuous improvement of various abilities development while using new means and techniques of training/assessment;
- Practicing the training/assessment abilities and the feedback continuously reported;
- The possibility of application and use of knowledge and competences gained based on the new means and techniques for training/assessment.

Accordingly, the results were checked taking into account the professional level.

Therefore, the following groups were covered:

1. Specialists in Orthopedics and Traumatology
2. Residents in Orthopedics and Traumatology

#### 1. Specialists in Orthopedics and Traumatology

All respondents underlined the importance of IT implementation in medicine while mentioning various fields where IT could be beneficial:

- Continuing medical education
- Following new advancements in practice
- Keeping knowledge update
- Developing skills
- Competing with peers
- Obtaining news about occupational events

- Consulting and sharing experience with peers
- Conducting research and literature overview

Also, they all mentioned the importance of IT field for the continuous improvement and knowledge updating.

They use weekly/monthly the enlisted sources of information and continuously train in any relevant topic. They share the area from good knowledge of e-tools and distance learning methodologies to having no knowledge of the issues. All use email and internet. They would like to spend from 200 to 400 hours per year for training, but the schedule and work planning do not allow them the fulfilment.

Even if their experience in e-learning is not well defined, they all trust the methods and means for the topics enlisted. Even strongly empirical topics and subjects are of interest when linked to e-tools and an acceptance of free of charge or paid (partially contribution from employees) is obvious.

#### 1. Residents

Even if never participated in distance learning, students and residents have competencies, training needs and expectations various from those of the above categories. They use and are familiar with e-tools and they heard about distance and mobile learning. They weekly/monthly sometimes, on a daily basis, check sources of information such as new jobs and career opportunities, European new techniques, technologies, publications and Science and Research last innovations.

They use email, internet, e-tools and social network and they often checked or looked for distance courses.

## 1.6. Accreditation/certification of new competencies

Main issues taken into consideration in our project were to achieve validation of training by CME credits. For this reason it is important to present the certification system in each country and to make early contact with correspondent ECM office and will act as stipulated by national regulations regarding the crediting criteria in CME. Also it is important to take care if creditation is available for CME programs via the Internet, online, or by interactive informational support offered. For this reason each report will present specific details linked to these 2 aspects.

### Postgraduate medical education in Turkey.

Postgraduate medical and pharmaceutical education provides specialization and professional development of individuals with higher education in the medical field, in order to acquire improve the level of knowledge, skills and abilities necessary to increase the quality of care and level of performance in health.

It is coordinated by both Institution of Higher Education (YOK) and the Ministry of Health (SB). YOK deals with the postgraduate medical education in the universities and the SB deals with the specialization education given in the research and education hospitals. YOK is also the superior institution that all universities are connected to.

### Types of postgraduate medical education forms in Turkey.

Postgraduate medical education forms include:

a) Postgraduate specialty education in universities which provide medical schools.

Graduates of medical schools enter a central exam which is conducted twice a year and get a score based on their achievements on medical knowledge. A preference list is made and depending on the score the graduates are placed to a program. The specialty programs take 5 years in Orthopedics and ends with a thesis and a graduation examination consisting of practical skills, oral and written parts. Although not mandatory, but recommended by the Turkish Medical Doctors Association and the Turkish Orthopedics and Traumatology Association residents get credits from surgeries they attend to or perform, lectures, seminars, congresses and other CME credits from medical events. Credits can

also be obtained from quizzes provided by medical journals. Every year a level determination exam is performed at major centers by the Turkish Orthopedics and Traumatology Association. Postgraduate specialty education is also provided to graduates other than medical schools by other preclinical specialty branches which have their own regulations. A resident completing the specialty program is expected to enter a central board exam to confirm standardized level of medical knowledge and skill.

b) Postgraduate specialty education in state hospitals for education and research. A medical doctor may also enter the central exam and choose to work in a specialty program offered by the state hospitals which are dedicated to education and research. These programs are more skills based but are subject to similar regulations.

### Continuous Medical Education in Turkey

Turkish Medical Association (TTB) is the authority crediting medical events with CME credits. Participants acquire and CME credits but unfortunately CME credit acquisitions have not been integrated into the specialty training regulations yet. Specialty trainings are completed only by end of the program competency exam and a specialty thesis. Program suppliers are recommended to, but not obligatory; promote CME credits, central Turkish and European board exams, and annual resident academic level determining exams.

TTB also works with specialty associations in accrediting educational centers in competency. Accreditation is also not mandatory but accredited centers are preferred by the residents. In case of education in Orthopedics and Traumatology, guidelines for accreditation are prepared by the Turkish Association of Orthopedics and Traumatology (TOTBID) and its sub-association working in the field of education; Turkish Orthopedics and Traumatology Education Institution (TOTEK). The execution is conducted by TOTBID under the supervision of TTB.



### 1.7. Conclusions

Medicine is one of the most rapidly changing fields of science. Most of the surgical methods which were considered as gold standard have changed. Even now physicians are aware that the methods they are applying currently may not exist 5 to 10 years later. Research and development is taking place all over the globe and results are disseminated world wide. To assure quality of service given for the patient a medical worker should always be in touch with the current advances.

A medical student or a resident gathers vast amount of information during the education period. After graduation it is usually upto personal preference for one to keep upto date. The ones who do not keep in touch with the advances in medicine are doomed to stay faded in professional life.

A couple decades ago, before the internet, access to knowledge was difficult. Medical applications would vary greatly between countries. One would either require to travel abroad to gather current information or subscribe to printed periodicals. Medline was accessed via cd's which were updated every 6 to 12 months. Internet provided an incredible ease in access to knowledge. Availability of audio and video media made skill development possible in addition to knowledge.

Currently internet has its disadvantages too. One may reach vast amount of knowledge with variable validity. Even in the literature one can find support for any idea coming to mind. Evidence levels and metaanalysis studies emerged to filter the knowledge. For the skills education we still prefer the sources we trust. Several countries have prepared guidelines for treatment of most common diseases. For assurance of quality and validity of knowledge and skills information formation of standards is very important.

Nearly everyone, especially in profession related to medicine have easy access to internet. The questionnaire results also confirm this. Availability of a trustworthy source of information where standards of treatment are formed by agreement of

multiple centers and where the information is supported with visual documents will readily be accepted and used by the residents and specialists.

### Proposals

- a. To inform associations dealing with professional education identified as references on our platform, about the opportunity to participate as users to courses offered by our platform.
- b. Maintaining of questionnaires on the project website appealing to visitors to help us in expanding the research to other geographical areas.



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3. Medical Specialty Entrance Exam Regulations.  
<http://www.tuk.saglik.gov.tr/tuey-2014.pdf>
4. Turkish medical specialty education regulations.  
[http://www.yok.gov.tr/web/guest/icerik/-/journal\\_content/56\\_INSTANCE\\_rEHF8BIsfYRx/10279/16804](http://www.yok.gov.tr/web/guest/icerik/-/journal_content/56_INSTANCE_rEHF8BIsfYRx/10279/16804)

### OFFICIAL BODIES AND PROFESSIONAL ORGANISATIONS

1. Institution of High Education. [www.yok.gov.tr](http://www.yok.gov.tr)
2. Ministry of Health, Turkey. [www.saglik.gov.tr](http://www.saglik.gov.tr)
3. Turkish Medical Association. [www.ttb.org.tr](http://www.ttb.org.tr)
4. Turkish Association of Orthopedics and Traumatology (TOTBID).  
[www.totbid.org.tr](http://www.totbid.org.tr)
5. Turkish Orthopedics and Traumatology Education Institution (TOTEK).  
[totek.totbid.org.tr](http://totek.totbid.org.tr)

## ANNEX 1

## NEEDS ASSESSMENT QUESTIONNAIRE IN ORTHOPEDICS

PERSONAL DETAILS

(These details are required for communication purposes only and will not be disclosed)

NAME: \* optional

Position:

 Resident  in.....

 Medical doctor  specialization.....

 Member of professional organization  name of organization.....

 Manager 

Institution.....

Department.....

Position.....

EMAIL: \* optional

\*Tick the box that suits best your situation.

1. . How often do you access the internet?

 Daily  2-3 times a week  weekly 

2. How much do you use the internet for improving your professional career?

 Daily  Weekly  Monthly 

3. Which of the following e-tools are you familiar with and to which extent? Tick the box that suits best your situation.

	Never heard of it	I have heard but never used it	I can manage with help	I can use it
Chat				
Wiki				
Audio conferencing				
Video conferencing				
Forum				
e-mail groups				
Internet Mobile/ mobile learning				

4. What are the main categories of information that you require? How often do you use them?

Clinical issues	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medical Legislation	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medication	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medical events	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>

News Publications  Daily  Weekly  Monthly   
 Science & Research  Daily  Weekly  Monthly

5. How do you prefer to improve your professional career?

Classical courses  Workshops  e learning

6. Are you interested in e-learning?

Yes No

7. Are you interested in mobile learning?

Yes No

8. Have you looked for e-learning on internet?

Yes No

In what domains.....

9. How many hours/per year do you think are necessary to refresh your knowledge and improve skills and competencies?

.....

10. If you would have on your disposal an e-learning platform for continuous education would you apply to it if it is on free basis?

Yes No

11. If you would have on your disposal an e-learning platform for continuous education would you apply to it if it is on payment basis?

Yes No

12. What language would you prefer for the course information?

.....

13. What is the pathology, localized to the lower limb joints that would interest you?

Congenital	<b>Yes</b>	<b>No</b>
Post-traumatic	<b>Yes</b>	<b>No</b>
Inflammatory	<b>Yes</b>	<b>No</b>
Degenerative	<b>Yes</b>	<b>No</b>
Tumoral	<b>Yes</b>	<b>No</b>

14. Would you be interested in learning about application of gait analysis in orthopedic surgery?

**Yes No**

15. If you would apply to an e-learning platform dedicated to lower limb orthopedic pathology ( including complications), would you be interested in:

Hip trauma	Yes	No
Hip osteoarthritis	Yes	No
Knee trauma	Yes	No
Knee osteoarthritis	Yes	No
Surgery for neuro-muscular disorders	Yes	No
Ankle osteoarthritis	Yes	No
Fractures of tibia and ankle	Yes	No
Ankle arthrodesis	Yes	No
Diabetic foot	Yes	No
Congenital and developmental disorders	Yes	No
Fractures of the calcaneum	Yes	No
Bone tumors	Yes	No

16. What kind of surgical procedures for lower limb pathology would you be interested in being detailed on an e-learning platform:

Diaphyseal fracture fixation	Yes	No
Articular and peri-articular fracture fixation	Yes	No
Hip arthroplasty	Yes	No
Knee arthroplasty	Yes	No
Knee osteotomy	Yes	No
Hip osteotomy	Yes	No
Ankle arthrodesis	Yes	No
Tenotomies and capsulotomies	Yes	No
Ligamentous surgery	Yes	No

17. Do you think that gait analysis can be useful for certain aspects of orthopedic practice

Patient evaluation	Yes	No
Pre-operative planning	Yes	No
Establish the timing of surgery	Yes	No
Guiding post-op rehabilitation	Yes	No
Predicting the onset of complications	Yes	No

18. If you had to describe a successful orthopedic treatment, this would include

Good functional result	Yes	No
No complications	Yes	No
Social and professional re-integration of the patient	Yes	No
Radiological healing, no matter the functional result	Yes	No

19. When referring to orthopedic procedures, your major points of interest(s) are:

Indications for each procedure	Yes	No
--------------------------------	-----	----

Surgical approach	Yes	No
Necessary instruments	Yes	No
Bone preparation	Yes	No
Implant positioning	Yes	No
Tips and tricks	Yes	No
Possible failures and complications	Yes	No

20. Are you familiar with human gait analysis?

**Yes No**

21. Do you use human gait analysis in your practice?

**Yes by clinical observation**  
**Yes by computerized**  
methods  
**No**

22. Would you be interested in learning about application of gait analysis in rehabilitation?

**Yes No**

23. Would you be interested in a Forum on medical topics?

Yes No

24. Would you be interested in sharing your own experience for second opinion?

Yes No