

# Postgraduate Certificate

## Decision Algorithms in Refractive Surgery





## Postgraduate Certificate Decision Algorithms in Refractive Surgery

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/decision-algorithms-refractive-surgery](http://www.techtute.com/us/medicine/postgraduate-certificate/decision-algorithms-refractive-surgery)

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# 01

# Introduction

Refractive Surgery is a medical specialty in constant evolution that seeks to correct visual defects to improve the quality of life of people. In this context, the Decision Algorithms in Refractive Surgery program offered by TECH is presented as an essential tool for any professional who wants to deepen in this discipline. The degree addresses topics such as refractive stability, contraindications and corneouveal pathology and offers an innovative teaching methodology based on Relearning. In addition, it is taught 100% online, thus adapting to the needs of students, which will allow professions to organize academic resources in a flexible manner.



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*Are you a Refractive Surgery professional looking for quality training? The Postgraduate Certificate in Decision Algorithms in Refractive Surgery is for you. With a complete syllabus and an innovative methodology based on Relearning”*

Refractive surgery is an increasingly common surgical procedure to correct vision problems such as nearsightedness, astigmatism and farsightedness. In order to perform this intervention, it is necessary to take into account a series of factors and variables, and therefore a Decision Algorithm is required to make the best decision for each patient. This is why the Postgraduate Certificate on Decision Algorithms in Refractive Surgery is presented, which seeks to provide health professionals with complete and updated knowledge on this subject.

The importance of this program lies in the need for health professionals working in the field of Refractive Surgery to have solid training in order to ensure the success of each surgical intervention and patient satisfaction. With the increasing demand for Refractive Surgery, it is necessary to have specialized and updated professionals in this field.

During the Postgraduate Certificate, topics such as refractive stability, contraindications, conjunctivopalpebral and corneouveal pathology, peripheral corneal ectasia and ulcers, dry eye, binocular vision and intraocular pressure alterations, among others, will be addressed. Students will have the opportunity to delve deeper into each of these topics and learn how to apply the Decision Algorithms corresponding to each case.

The methodology of the program is based on theoretical and practical classes, through which students will learn first-hand the application of Decision Algorithms in Refractive Surgery. In addition, the learning process will be promoted through an innovative methodology such as Relearning. Professionals who complete the degree will be prepared to apply what they have learned in clinical practice, thus improving the quality of medical care in the field of refractive surgery.

This **Postgraduate Certificate in Decision Algorithms in Refractive Surgery** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of case studies presented by medical experts focused on Decision Algorithms in Refractive Surgery
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*If you are looking to improve your clinical practice in Refractive Surgery, this Postgraduate Certificate provides you with updated training in the techniques and decision algorithms necessary to deal with cases such as myopia”*

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*Expand your knowledge of the dioptric limits of each refractive defect in order to provide more precise and personalized care”*

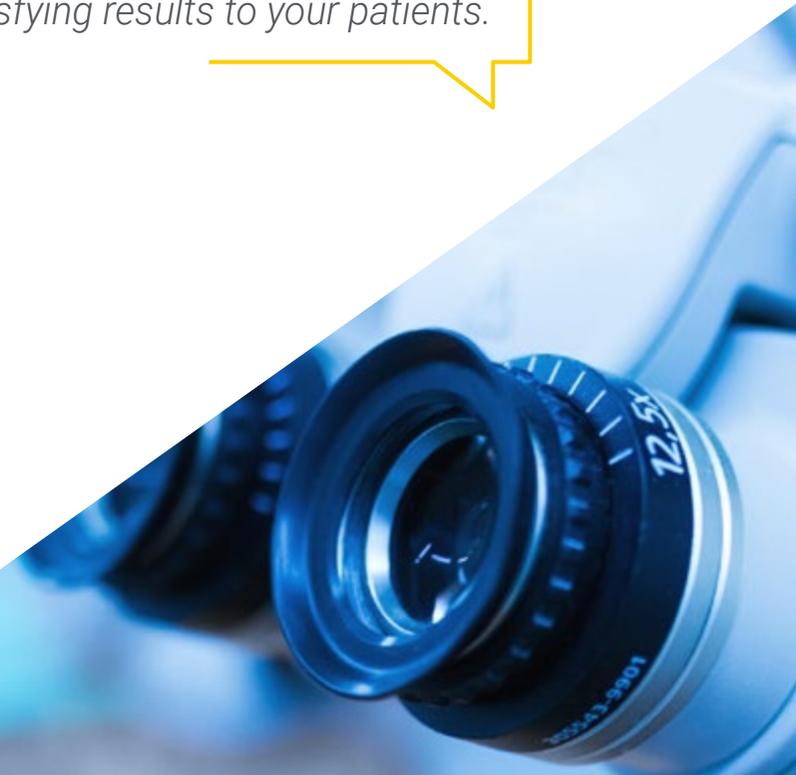
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*Deepen your knowledge and become an expert in Decision Algorithms in Refractive Surgery.*

*Expand your skills and knowledge to make informed decisions during refractive surgery and deliver more satisfying results to your patients.*



# 02 Objectives

Knowledge and skill in Refractive Surgery are essential aspects for any ophthalmology professional. In this sense, the Postgraduate Certification Decision Algorithms in Refractive Surgery seeks to provide a complete and rigorous training in the processes and techniques involved in this discipline. Thus, the program also seeks to have professionals capable of making informed decisions on when and how to apply refractive surgery in patients with different types of refractive defects. With a focus on Decision Algorithms and dioptric limits, the program provides the necessary tools to perform a comprehensive and accurate assessment of the patient, identifying any ocular pathological process that may influence the final decision on the performance of surgery.





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*Discover key decision algorithms to assess the feasibility of refractive surgery and make informed decisions about your patients' eye health”*



## General Objectives

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- ♦ To delve into the basic principles of optics, as well as refractive defects and their treatment possibilities
- ♦ Describe the corneal morphology and function on which much of Refractive Surgery is applied
- ♦ To investigate the indications and contraindications of Refractive Surgery, as well as the algorithms used for the surgery
- ♦ Obtain an update on the studies to be performed on patients in order to correctly assess the indication for surgery
- ♦ Describe the processes of preparation for Refractive Surgery
- ♦ To deepen in the different techniques applied on the cornea for the correction of refractive errors
- ♦ Identify the surgeries that can be performed on the crystalline lens to eliminate the patients' graduation defects
- ♦ Be aware of the different lenses that are used for this surgery without acting on the cornea or lens
- ♦ To deepen the relationship between Glaucoma and Refractive Surgery





## Specific Objectives

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- Identify the decision algorithms in the inclusion or not of a patient for Refractive Surgery
- To delve into the dioptric limits of each refractive defect for refractive surgery
- Point out the ocular pathological processes that will cause the surgery to be delayed, modified in its technique or not performed

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*Learn about the most common ocular pathological processes that can affect the performance of surgery and become an expert in the identification of patients suitable for surgery”*

03

# Course Management

The direction of this Postgraduate Certificate is in the hands of a team of highly qualified and experienced professionals in this field of refractive surgeries. These professionals are not only subject matter experts, but are also committed to training students and delivering rigorous, up-to-date knowledge. TECH and its teachers strive to create a learning environment that allows students to interact with the materials from anywhere in the world in a close way. In addition, they ensure that the most advanced technological equipment and the most innovative techniques in the field of refractive surgery are used to provide students with a complete and quality education.



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*Discover excellence in teaching with the best teaching experts at the forefront of refractive surgery in this 100% online Postgraduate Certificate”*

## International Guest Director

Dr. Beeran Meghpara is an internationally renowned ophthalmologist specializing in Cornea, Cataract and Laser Refractive Surgery.

He has served as Director of Refractive Surgery and member of the Cornea Service at Wills Eye Hospital in Philadelphia, a world leading center in the treatment of eye diseases. Here, this expert has performed all forms of Corneal Transplantation, including Partial Thickness DMEK and DALK. In addition, he has extensive experience with the latest technology in Cataract Surgery, including Femtosecond Laser and Intraocular Lens Implants, which correct Astigmatism and Presbyopia. He also specializes in the use of Bladeless Custom LASIK, Advanced Surface Ablation and Phakic Intraocular Lens Surgery to help patients reduce their dependence on glasses and contact lenses.

In addition, Dr. Beeran Meghpara has excelled as a scholar by publishing numerous articles and presenting his research at local, national and international conferences, contributing to the field of Ophthalmology. Likewise, he has been honored with the prestigious Golden Apple Resident Teaching Award (2019), in recognition of his dedication to teaching residents in Ophthalmology. In addition, he has been selected by his peers as one of Philadelphia magazine's Best Doctors (2021-2024) and Best Doctor by Castle Connolly (2021), a leading research and information resource for patients seeking the best medical care.

In addition to his clinical and academic work, he has served as an ophthalmologist for the Philadelphia Phillies baseball team, underscoring his ability to handle highly complex cases. In this sense, his commitment to technological innovation, as well as his excellence in medical care, continues to raise the standards in ophthalmic practice worldwide.



## Dr. Beeran Meghpara

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- Director of the Department of Refractive Surgery at Wills Eye Hospital, Pennsylvania, United States
- Ophthalmic Surgeon at the Center for Advanced Ophthalmic Care, Delaware
- Fellow in Cornea, Refractive Surgery and External Disease at the University of Colorado
- Resident Ophthalmology Physician at Cullen Eye Institute, Texas
- Intern at St. Joseph's Hospital, New Hampshire
- Doctor of Medicine from the University of Illinois, Chicago
- Graduate of the University of Illinois, Chicago
- Selected for the Alpha Omega Alpha Medical Honor Society
- Awards: Golden Apple Resident Teaching Award (2019), Best Doctor from, Philadelphia Magazine (2021-2024), Best Doctor from Castle Connolly (2021)

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Dr. Román Guindo, José Miguel

- ◆ Ophthalmologist at Oftalvist Málaga
- ◆ Ophthalmologist at Vissum Madrid
- ◆ Ophthalmologist at Dubai International Medical Center
- ◆ Medical Director of Vissum Madrid Sur and Vissum Málaga
- ◆ Specialist in Ophthalmology at the San Carlos Clinical Hospital
- ◆ Doctor in Ophthalmology
- ◆ Degree in Medicine and Surgery General: from the Autonomous University of Madrid
- ◆ Member of: Spanish Society of Ophthalmology, International Society of Ocular Inflammation, International Society of Ocular Inflammation



## Professors

### Dr. Alaskar Alani, Hazem

- ◆ Ophthalmologist at Oftalvist Málaga
- ◆ Surgical Director of Poniente University Hospital
- ◆ Head of the Ophthalmology Diseases Department, Poniente Hospital
- ◆ Specialist in Ophthalmology at the Puerta De las Nieves University Hospital
- ◆ Degree in Medicine and Surgery from the University of Valencia
- ◆ Doctor of Medicine and Surgery from the University of Almería
- ◆ Master's Degree in Health Management and Planning, European University of Madrid
- ◆ Master's Degree in Ophthalmology Medicine from Cardenal Herrera University
- ◆ Member of: European Retina Society EURETINA, SEDISA, The Spanish Society of Health Managers, Fellow of the European Board of Ophthalmology, FEBO European Society of Cataract and Refractive Surgery, ESCRS, Spanish Society of Implant Refractive Surgery SECOIR, Andalusian Society of Ophthalmology SAO, Spanish Society of Retina and Vitreous SERV, Fellow of the European School of Retina and Vitreous Surgery EVRS

# 04

## Structure and Content

This Postgraduate Certificate consists of a highly specialized structure and content on Refractive Surgery. The program has been designed through an approach based on decision algorithms that allow efficient and effective decision making in the surgical process. The degree is divided into ten topics, ranging from refractive stability to pediatric refractive surgery. Each item has a specific focus and focuses on different aspects of refractive surgery, such as conjunctivopalpebral pathology, corneouveal pathology, dry eye, binocular vision alteration and intraocular pressure alteration. In addition, the entire Postgraduate Certificate is approached through a Relearning methodology, which helps participants to have a better and easier learning.





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*Within this program you will have a study plan designed to favor autonomous learning, in order to make possible the compatibility of your education with your personal and professional duties”*

## Module 1. Decision Algorithms in Refractive Surgery

- 1.1. General decision algorithm in Refractive Surgery
  - 1.1.1. Refractive stability
  - 1.1.2. Contraindications
  - 1.1.3. Background
  - 1.1.4. Ametropia algorithm
- 1.2. Refractive stability
  - 1.2.1. Myopia
  - 1.2.2. Hyperopia
  - 1.2.3. Astigmatism
  - 1.2.4. Selection Criteria
- 1.3. Contraindications and systemic medication
  - 1.3.1. Absolute general contraindications
  - 1.3.2. Relative general contraindications
  - 1.3.3. Systemic medication: Tear and cornea
  - 1.3.4. Systemic medication Pupil and refractive alteration
- 1.4. Conjunctivo palpebral pathology
  - 1.4.1. Stye
  - 1.4.2. Chalation
  - 1.4.3. Allergy
  - 1.4.4. Pathology
- 1.5. Corneouveal pathology
  - 1.5.1. Leukomas
  - 1.5.2. Acute inflammations
  - 1.5.3. Active uveitis
  - 1.5.4. Inactive uveitis
- 1.6. Peripheral Corneal Ectasias and Ulcers
  - 1.6.1. Keratoconus/ Pellucid marginal degeneration
  - 1.6.2. After Lasik
  - 1.6.3. Infectious-inflammatory ulcers
  - 1.6.4. Dystrophies
- 1.7. Dry eyes
  - 1.7.1. Indications for dryness assessment
  - 1.7.2. Schirmer y Tiempo de ruptura (BUT)
  - 1.7.3. Rose of Bengal
  - 1.7.4. Lasik and dry eye
- 1.8. Binocular vision impairment
  - 1.8.1. Anisometropia
  - 1.8.2. Forias
  - 1.8.3. Trophies
  - 1.8.4. Amblyopia
- 1.9. Intraocular Pressure Alteration (IOP)
  - 1.9.1. IOP considerations
  - 1.9.2. Ocular Hypertension
  - 1.9.3. Glaucoma
  - 1.9.4. Future assessments of IOP
- 1.10. Algorithm in ametropia and peditrics
  - 1.10.1. Myopia
  - 1.10.2. Hyperopia
  - 1.10.3. Astigmatism
  - 1.10.4. Pediatric Refractive Surgery



*Enroll now in this Postgraduate Certificate in Decision Algorithms in Refractive Surgery and specialize at your own pace in a sector with high employability, through TECH's cutting-edge didactic training"*



05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

The Postgraduate Certificate in Decision Algorithms in Refractive Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

This program will allow you to obtain your **Postgraduate Certificate in Decision Algorithms in Refractive Surgery** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

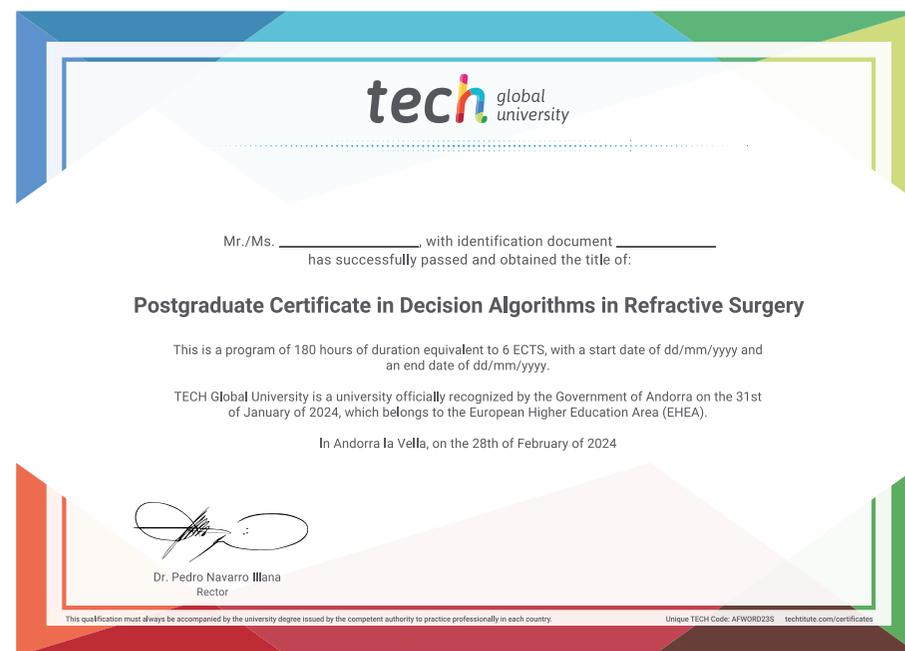
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Decision Algorithms in Refractive Surgery**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development languages  
virtual classroom



## Postgraduate Certificate

### Decision Algorithms in Refractive Surgery

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