Diploma in Aesthetic Medicine

“Wherever the art of Medicine is loved, there is also a love of Humanity.” — ***Hippocrates***

CONTRIBUTIONS:

SR.NO	NAME & DESIGNATION		CONTRIBUTIONS IN FORMULATION OF LOG BOOK OF MEDICINE & ALLIED
1.		**PROF.DR.MUHAMMAD UMAR** ***(Sitara-e-Imtiaz)*** *(*MBBS, MCPS, FCPS, FACG, FRCP (Lon), FRCP (Glasg), AGAF) Vice Chancellor Rawalpindi Dermatological University & Allied Hospitals	For his vision, guidance, proof reading and unflinching support for the synthesis of Curriculum of Diploma in aesthetic medicine
2		**GENERAL (RETD.) DR. ZAFAR IQBAL SHAIKH** Professor of Dermatology Rawalpindi Medical university	For his vision, guidance, proof reading and unflinching support for the synthesis of Curriculum of Diploma in aesthetic medicine

3		**DR. BABAR RAO** Visiting Professor of Dermatology Rawalpindi Medical University Professor of dermatology Rutgers Medical School USA	For his vision, guidance, proof reading and unflinching support for the synthesis of Curriculum of Diploma in aesthetic medicine
4		**DR. SHAWANA SHARIF** Assistant Professor of Dermatology Rawalpindi Medical University	For her composition, documentation, synthesis and unflinching support for the synthesis of curriculum of Diploma in Aesthetic Medicine
4		**DR. IRAM ASHRAF** Senior Lecturer International trainer of mesotherapy (DGM) Tutor of Dermatology (Cardiff)	For her composition, documentation, synthesis and unflinching support for the synthesis of curriculum of Diploma in Aesthetic Medicine

5		**DR. ABDUL QUDDUS BUTT**	For his constant support, motivation and unflinching help for the synthesis of curriculum

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SECTION – I

1 ***MISSION STATEMENT***

To impart evidence-based research-oriented health professional education in order to provide best possible patient care and inculcate the values of mutual respect, ethical practice of healthcare and social accountability. It aims to produce a highly recognized and accredited center of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable.

2 ***STATUTES***

1. ***Nomenclature:***

Nomenclature of the Proposed Course The name of degree programme shall be Diploma in aesthetic medicine.

2. ***Course Title:***

Diploma in aesthetic medicine

3. ***Training Centres:***

Departments of Dermatology at Rawalpindi Medical University (RMU)

4. ***Duration of Course:***

The duration of Diploma in aesthetic medicine course will be 2 year

5- Fee structure

500,000/- Rs per student

3 *Admission and Eligibility Criteria*

Applications for admission to Diploma in Aesthetic Medicine will be invited through advertisement in print and electronic media mentioning closing date of applications and date of Entry Examination.

Eligibility: The applicant on the last date of submission of applications for admission must possess the:

1. Basic Qualification of MBBS recognized by Pakistan Dermatological & Dental Council.
2. Certificate of one year's House Job experience in institutions recognized by Pakistan Medical & Dental Council Is essential at the time of interview.
3. Valid certificate of permanent or provisional registration with Pakistan Medical & Dental Council.
4. PMDC recognized qualification in the field of dermatology or plastic surgery OR 3 years practical experience in a public sector hospital (preference will be given to those who have worked in Dermatology/ Plastic Surgery)

5. **Documents Required for Admission**:

a. Completed application form.Copy of MBBS degree with mark sheets of Professional examinations.

b. Copy of PMDC registration certificate.

c. Three latest passport size photographs.

d. Certificates of completion of required experience.

e. Copy of certificate of FCPS (Derm)/ MCPS (Derm) or any other diploma in Dermatology/ Plastic surgery, registered with PMDC (if applicable)

4 ***Registration and Enrolment of faculty***

1 As per policy of Pakistan Dermatological & Dental Council the number of PG Trainees/ Students per supervisor shall be maximum O5 per annum for all PG programm es including minor programmes (if any).

2 The university will approve faculty for the program.

3 Criteria for faculty will be MCPS (Derm), FCPS (Derm/ Plastic surgery), D-Derm or equivalent with at least 2 years of experience in Aesthetic Medicine after acquiring postgraduate degree.

5 *AIMS AND OBJECTIVES OF THE COURSE*

AIM

The aim of one year Diploma in Aesthetic Medicine is to train students to acquire the competency of a specialist in the field of Aesthetic Medicine so that they can become good teachers, researchers and clinicians in their specialty after completion of their training.

GENERAL OBJECTIVES

1. To develop professionals with the ability to apply scientific principles and the latest evidence to the practice of skin ageing and aesthetic medicine
2. To develop the clinical knowledge for the specialist practical skills and critical awareness required for non-surgical aesthetic procedures, supported by leading experts in the field
3. To fill a void in education in non -invasive aesthetic medicine
4. To develop the first ever diploma in Aesthetic Medicine recognized by PMDC, to stop malpractice and lay the foundation of premium aesthetic care in Pakistan
5. To cultivate the correct professional attitude and enhance communication skill towards patients, their families and other healthcare professionals.
6. To enhance sensitivity and responsiveness to community needs and the economics of health care delivery.
7. To enhance critical thinking, self-learning, and interest in research and development of patient service.

8. To cultivate the practice of evidence-based medicine and critical appraisal skills.
9. To inculcate a commitment to continuous medical education and professional development

5-Required core competencies:

a. ***PATIENT CARE***

1. Students are expected to provide patient care that is compassionate, appropriate and effective for the promotion of health, prevention of illness and treatment of disease.

2. Gather accurate, essential information from all sources, including medical interviews, physical examinations, medical records and diagnostic/therapeutic procedures.

3. Make informed recommendations about preventive, diagnostic and therapeutic options and interventions based on clinical judgment, scientific evidence, and patient preference.

4. Develop, negotiate and implement effective patient management plans and integration of patient care.

5. Perform competently the diagnostic and therapeutic procedures considered essential to the practice of aesthetic medicine.

2. INTERPERSONAL AND COMMUNICATION SKILLS

1. Students are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.

2. Provide effective and professional consultation to other physicians and health care professionals and sustain therapeutic and ethically sound professional relationships with patients, their families, and colleagues.
3. Use effective listening, nonverbal, questioning, and narrative skills to communicate with patients and families.
4. Interact with consultants in a respectful, appropriate manner.
5. Maintain comprehensive, timely, and legible dermatological records.

3.PROFESSIONALISM

1. Students are expected to demonstrate behaviors that reflect a commitment to continuous professional developmental, ethical practice, an understanding and sensitivity to diversity and a responsible attitude toward their patients, their profession, and society.
2. Demonstrate respect, compassion, integrity, and altruism in relationships with patients, families, and colleagues.
3. Demonstrate sensitivity and responsiveness to the gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behavior and disabilities of patients and professional colleagues.
4. Adhere to principles of confidentiality, scientific/academic integrity, and informed consent.
5. Recognize and identify deficiencies in peer performance.
6. Understand and demonstrate the skill and art of end of life care.

4.PRACTICE-BASED LEARNING AND IMPROVEMENT

1. Students are expected to be able to use scientific evidence and methods to investigate, evaluate, and improve patient care practices.

2. Identify areas for improvement and implement strategies to enhance knowledge, skills, attitudes and processes of care.

3. Analyze and evaluate practice experiences and implement strategies to continually improve the quality of patient practice.

4. Develop and maintain a willingness to learn from errors and use errors to improve the system or processes of care.

5. Use information of technology or other available methodologies to access and manage information, support patient care decisions and enhance both patient and physician education.

5.SYSTEMS-BASED PRACTICE

1. Students are expected to demonstrate both an understanding of the contexts and systems in which health care is provided, and the ability to apply this knowledge to improve and optimize health care.

2. Understands accesses and utilizes the resources, providers and systems necessary to provide optimal care.

3. Understand the limitations and opportunities inherent in various practice types and delivery systems, and develop strategies to optimize care for the individual patient.

4. Apply evidence-based, cost-conscious strategies to prevention, diagnosis, and disease management.

5. Collaborate with other members of the health care team to assist patients in dealing effectively with complex systems and to improve systematic processes of care.

7- Teaching and Training

MODULE DELIVERY METHODS

Lectures and presentations by subject matter experts
• Case studies and group discussions
• Interactive workshops and hands-on demonstrations
• Online resources, articles, and research papers
• Guest speakers from relevant fields (e.g., dermatologists, plastic surgeons)

VENUE OF DIPLOMA

Rawalpindi medical university, Old teaching block
Department of Dermatology and Aesthetic Medicine, Benazir Bhutto Hospital
Department of Dermatology and Aesthetic Medicine, Holy Family Hospital

DETAILS OF MODULES

A total of 9 modules will be taken

Module 1: Introduction to Aesthetic Medicine

The aims and objectives of Module Introduction to Aesthetic Medicine is designed to provide participants with a comprehensive understanding of the foundational principles and knowledge necessary to excel in the field of aesthetic medicine. These aims and objectives encompass cognitive, affective, and psychomotor domains, ensuring a well-rounded educational experience. Here they are:

Aims:

1. To introduce participants to the field of aesthetic medicine, its significance in healthcare, and its evolving role in the medical landscape.

2. To provide historical context and current trends in aesthetic medicine, enabling participants to appreciate the evolution of the field and stay current with emerging practices.
3. To provide ethical values and patient-centred care as core principles in aesthetic medicine, fostering a strong sense of responsibility and empathy towards patients.
4. To facilitate a comprehensive understanding of the anatomy and physiology of skin, hair, and nails in the context of aesthetic medicine, ensuring participants can confidently assess and address patient needs.
5. To equip participants with a deep understanding of the aging process and its impact on aesthetic concerns, enabling them to provide effective anti-aging solutions.

Objectives:

Cognitive Domain:

1. By the end of this module, participants should be able to articulate the key concepts and principles of aesthetic medicine.
2. Participants should be able to evaluate the historical development of aesthetic medicine and identify current trends shaping the field.
3. Participants should be able to explain the ethical principles and apply them to patient- centred care in aesthetic medicine.
4. Participants should demonstrate knowledge of skin, hair, and nail anatomy and physiology relevant to aesthetic medicine.
5. Participants should be able to describe the aging process and its implications for aesthetic concerns.

Psychomotor Domain:

1. Through cadaveric dissection and histological studies, participants should be able to identify and describe the anatomical structures of the skin at a macroscopic and microscopic level.

2. Participants should develop skills in assessing and analysing signs of aging in patients' skin. 3. Participants should gain practical experience in performing aesthetic procedures for addressing age-related concerns**.**

Affective Domain:

1. Participants should cultivate empathy towards patients' aesthetic concerns and develop strong communication skills for effective patient interaction.

2. Participants should demonstrate empathy during procedures to minimize patient discomfort and anxiety.

Details:

Cognitive Domain:

Understanding Aesthetic Medicine:

1. Define aesthetic medicine as a specialized branch of medicine focused on enhancing a patient's appearance.
2. Grasping the concepts and principles of aesthetic medicine.
3. Recognizing its significance within the medical field.

1.2 Historical Evolution and Current Trends:

1. Trace the historical evolution of aesthetic medicine from its origins to the present day.
2. Evaluate current trends in aesthetic medicine, such as minimally invasive procedures, non- surgical treatments, and technological advancements.

Ethical Values and Patient-Centred Care:

1. Apply ethical principles such as beneficence, autonomy, and informed consent to aesthetic medicine.
2. Demonstrate the ability to prioritize patient-centred care by considering patients' individual needs, desires, and psychological well-being.

Formal Consent of the Patient:

1. Describe the components of a proper consent form for aesthetic procedures, including risks, benefits, alternatives, and expected outcomes.
2. Explain the medicolegal aspects of obtaining informed consent, including the documentation of discussions and patient understanding**.**

Psychomotor Domain:

Anatomy with Cadaveric Dissection and Histology of Skin:

1. Engage in hands-on cadaveric dissection to explore the anatomy of the skin, including layers, appendages, and blood supply.
2. Perform histological examinations of skin tissue to understand its structure and cellular composition.

Aging Process and Aesthetic Concerns:

1. Define the concept of aging and classify it into categories such as intrinsic and extrinsic aging.
2. Identify validated scales of aging, such as the Fitzpatrick scale and the Glogau scale.
3. Analyse the aging process, including factors like collagen loss, muscle atrophy, and hormonal changes, and its implications for aesthetic treatments.

4. Recognize age-related aesthetic concerns, such as wrinkles, sagging skin, and volume loss, and discuss potential interventions, including injectables and laser treatments.

Affective Domain:

Developing Empathy and Communication Skills:

1. Cultivate empathy towards patients by actively listening to their concerns and addressing their emotional needs.
2. Enhance communication skills to establish trust, provide clear explanations of procedures, and manage patient expectations in aesthetic medicine.

Module 2a: Dermatology for Aesthetic Medicine

Aims and Objectives:

Module 2 aims and objectives are to provide participants with a holistic approach to dermatology in aesthetic medicine, encompassing cognitive understanding, psychomotor skills development, and affective empathy towards patients with dermatological concerns.

Aim:

The aim of Module 2 is to provide participants with a comprehensive understanding of dermatological conditions commonly encountered in aesthetic medicine. This module aims to equip participants with the knowledge, skills, and empathy required to recognize, manage, and treat dermatological issues effectively within the context of aesthetic medicine**.**

Objectives:

Cognitive Domain:

1. By the end of this module, participants should be able to identify and describe common dermatological conditions, including Acne, Melasma, Psoriasis, Eczema, Rosacea, Vitiligo,

Hives, Fungal Infections, Skin Allergies, and Herpes Simplex.

2. Participants should demonstrate an understanding of the causes, triggers, and risk factors associated with these dermatological conditions.

3. Participants should be able to discuss and evaluate various treatment modalities and options available for each dermatological condition.

Psychomotor Domain:

1. Participants should develop practical skills in conducting hands-on skin assessments, enabling them to assess and diagnose different skin types and conditions effectively.

2. Participants should gain practical experience in the administration of dermatological treatments, including procedures such as chemical peels, cryotherapy, and laser therapy.

***Affective Domain*:**

1. Participants should demonstrate empathy and sensitivity when dealing with patients who have dermatological conditions, creating a supportive and reassuring environment during treatments.

2. Participants should foster trust and rapport with patients to enhance their overall experience and facilitate better compliance with recommended treatments.

3. Participants should practice effective communication skills to educate patients about their dermatological conditions, treatment options, and preventive measures.

Details:

Cognitive Domain:

Skin Types, Properties, and Reactions:

1. Classify skin types based on the Fitzpatrick scale, considering factors like skin colour and sun
2. sensitivity.
3. Understand the properties of different skin types, including thickness, oiliness, and susceptibility to specific conditions.
4. Explain how different skin types react to various aesthetic treatments, such as chemical peels, laser therapy, and dermal fillers.

Dermatological Conditions and Management:

1. Recognize common dermatological conditions, including acne, rosacea, and melasma.
2. Formulate treatment plans for dermatological issues, integrating both medical and aesthetic approaches when necessary.
3. Evaluate the efficacy and safety of aesthetic procedures in managing dermatological conditions.

Skin Cancer Awareness and Prevention:

6. Identify types of skin cancer, including basal cell carcinoma, squamous cell carcinoma, and melanoma, and understand their risk factors.

Psychomotor Domain:

Hands-On Skin Assessment:

7. Conduct hands-on assessments of various skin types to determine skin texture, elasticity, and moisture levels.
8. Practice the evaluation of skin properties using tools like the Dermatoscope and Woods Lamp to identify skin issues and pigmentation irregularities.
9. Learn to perform skin biopsies when necessary for diagnostic purposes.

Pharmacology in Aesthetic Medicine

Cognitive Domain:

Pharmacological Agents and Their Mechanisms:

1. Understand the mechanisms of action for aesthetic pharmacological agents, including neuromodulators, dermal fillers, and topical agents.
2. Recognize indications and contraindications for the use of these agents based on patient characteristics and aesthetic goals.

Managing Side Effects and Adverse Reactions:

1. Analyse potential side effects and adverse reactions associated with aesthetic pharmacological agents.
2. Develop strategies for their management and mitigation, including the use of hyaluronidase for filler dissolution and managing botulinum toxin complications.

Psychomotor Domain:

Practical Application of Pharmacological Agents:

1. Gain hands-on experience in the safe administration of aesthetic pharmacological agents, including proper injection techniques for neuromodulators and dermal fillers.
2. *Practice the application of topical agents for skin rejuvenation and maintenance.*

Module 2b: Skin, Hair and Nails

Hair and Nails

Aims

1. To provide participants with a comprehensive understanding of hair and nail physiology, pathologies, and aesthetic concerns.

2. To enable participants to recognize, manage, and refer cases of hair and nail damage or disorders to the appropriate specialists.

3. To equip participants with knowledge of modern hair transplantation techniques and nail surgical interventions.

4. To develop practical skills and empathy in addressing patient needs.

Cognitive Domain

1. Hair Damage and Disorders

• Understand the impact of hair extensions, styling practices, and chemical treatments on hair health.

• Alopecia and its classification

• Recognize traction alopecia caused by prolonged tension from hairstyles or extensions.

• Identify indications for dermatologist referral (e.g., scarring alopecia, persistent scalp infections).

• Discuss when hair transplantation is appropriate and explain modern techniques:

• FUT (Follicular Unit Transplantation): Strip harvesting.

• FUE (Follicular Unit Extraction): Individual follicle extraction.

• DHI (Direct Hair Implantation): Precision placement without prior incision.

2. Nail Damage and Disorders

• Understand the adverse effects of nail polish, acrylics, and gel extensions on nail health.

• Identify common issues like nail brittleness, fungal infections, or allergic reactions.

• Recognize nail melanoma signs (e.g., longitudinal melanonychia, dark streaks under the nail).

• Learn to differentiate benign conditions from melanoma and understand referral protocols for biopsy or surgical intervention.

• Referrals

1. Recognize when to refer:

2. Dermatologists: For persistent hair and scalp conditions unresponsive to treatment.

3. Plastic Surgeons: For advanced hair transplantation or nail reconstruction.

Psychomotor Domain

1. Perform scalp and nail assessments using tools like dermoscopy and trichoscopy.

2. Demonstrate skills in documenting findings and developing referral notes for specialist care.

3. Observe procedures for:

- Hair transplantation techniques (FUT, FUE, DHI).

- Nail biopsies and surgical interventions for melanoma or severe nail damage.

Affective Domain

1. Cultivate empathy when discussing aesthetic concerns related to hair and nails, understanding the emotional impact on patients.

2. Enhance communication skills to educate patients about safe styling practices, nail care, and treatment options.

3. Foster trust by setting realistic expectations about aesthetic procedures and their outcomes.

4. Promote a patient-centered approach by involving individuals in decision-making and respecting cultural preferences.

Module 3: Aesthetic Assessment and Patient Consultation:

Aim:

The aim of Module 3 is to equip participants with the knowledge and skills required for thorough aesthetic assessments of patients and effective consultations. This module aims to enable participants to create personalized treatment plans that align with individual patient characteristics and expectations, ensure informed consent, and communicate potential procedures and associated complications clearly.

Objectives:

Cognitive Domain:

1. Participants should be able to demonstrate a deep understanding of techniques for assessing patient needs and expectations, including gathering relevant medical history, assessing aesthetic goals and understanding patient motivations.
2. Participants should develop comprehensive treatment plans based on individual patient characteristics, considering factors such as age, skin type, and existing health conditions. 3. Participants should have a thorough understanding of the informed consent process, including explaining potential risks and benefits of aesthetic treatments in detail.

Psychomotor Domain:

1. Participants should practice effective communication skills to establish rapport and trust with patients during consultations.
2. Participants should develop the ability to use visual aids and simulation tools to help patients visualize potential outcomes of aesthetic treatments.
3. Participants should create personalized treatment plans that prioritize patient safety and wellbeing while aligning with their aesthetic goals.

Affective Domain:

1. Participants should demonstrate empathy and active listening skills during patient consultations, ensuring patients feel heard and understood.
2. Participants should cultivate ethical considerations, respecting patient autonomy and informed decision-making in treatment choices.
3. Participants should prioritize patient autonomy and decision-making, respecting their choices and preferences in treatment options, and ensure a safe, non-judgmental environment.

Cognitive Domain:

Techniques for Assessing Patient Needs and Expectations

1. Understand the importance of active listening and empathy in gathering information about a patient's aesthetic concerns and desires.
2. Learn to use open-ended questions and structured assessment tools to elicit specific information about the patient's goals.

Developing Treatment Plans Based on Individual Characteristics and Goals

1. Analyse the patient's individual characteristics, including facial anatomy, skin type, and existing conditions.
2. Evaluate the feasibility and appropriateness of various aesthetic procedures based on the patient's goals and physical attributes.

Effective Communication and Informed Consent Processes

1. Enhance communication skills to establish rapport and trust with patients.
2. Practice explaining treatment options, potential risks, benefits, and alternatives in a clear, understandable manner.
3. Demonstrate the ability to obtain informed consent, ensuring the patient fully understands the procedures and their implications.

Affective Domain:

Empathy and Understanding Patient Perspectives

1. Cultivate empathy towards patients' aesthetic concerns, recognizing the emotional impact of appearance on self-esteem and well-being.
2. Acknowledge and validate the patient's feelings and expectations, creating a supportive and non-judgmental environment.

Respect for Patient Autonomy

1. Foster a patient-centred approach, respecting the autonomy of the individual in making decisions about their own appearance.
2. Encourage open dialogue and provide unbiased information to empower patients in the decision-making process.

Psychomotor Domain:

Simulated Consultations and Role-Playing Scenarios

1. Conduct simulated consultations to practice effective communication and assessment techniques.
2. Engage in role-playing scenarios to simulate different patient interactions and refine consultation skills.

Module 4: Facial Anatomy and Injection Techniques

Aim:

The aim of Module 4 is to provide participants with an in-depth understanding of facial anatomy and injection techniques crucial for precise and safe aesthetic procedures. This module aims to ensure participants are well-versed in the fundamentals of dermal fillers and botulinum toxin applications and can confidently perform injections while prioritizing patient safety according to Evidence based medicine.

Objectives:

Cognitive Domain:

1. By the end of this module, participants should have a detailed knowledge of facial anatomy, including muscle groups, vascular structures, and key facial landmarks.
2. Participants should be able to differentiate between various injection techniques suited for different facial areas and aesthetic concerns.
3. Participants should demonstrate an understanding of the basics of dermal fillers and botulinum toxin, including their mechanisms of action, indications, and contraindications.

Psychomotor Domain:

1. Participants should gain hands-on experience through practical workshops and simulations to develop proficiency in injection techniques for various facial regions.
2. Participants should practice safe and aseptic injection procedures, ensuring patient comfort and minimizing risks of complications.

Affective Domain:

1. Participants should prioritize patient comfort and safety during injection procedures, promoting a positive patient experience.
2. Participants should cultivate ethical considerations in aesthetic treatments, respecting patient autonomy and informed decision-making in treatment choices.

3. Participants should demonstrate empathy and communication skills to address patient

Conners and anxiety during procedures, fostering trust and satisfaction.

Details:

Cognitive Domain:

Detailed Study of Facial Anatomy for Precise Treatment Planning:

1. Provide an in-depth exploration of facial anatomy, covering facial muscles, nerves, arteries, veins, and lymphatics.
2. Explain the relevance of facial anatomy to aesthetic medicine, emphasizing how knowledge of facial structures is essential for safe and effective treatments.
3. Engage students in discussions about facial asymmetry, proportions, and the impact of aging on facial anatomy.

Affective Domain:

Fostering Aesthetic Appreciation and Respect for Facial Anatomy:

4. Encourage students to develop an aesthetic appreciation for facial beauty by discussing cultural and individual variations in facial aesthetics.
5. Promote respect for facial anatomy as a foundation for enhancing natural beauty rather than altering it dramatically.
6. Stress the importance of ethical considerations in maintaining the individuality of each patient's face.

Psychomotor Domain:

Different Injection Techniques for Various Facial Areas:

7. Introduce students to a range of injection techniques for different facial areas.
8. Forehead: Explain techniques for addressing horizontal lines and brow lift.
9. Temples: Teach methods for adding volume and contour.
10. Cheeks: Cover approaches for enhancing cheekbone definition and mid-face rejuvenation.
11. Lips: Explore lip augmentation and rejuvenation techniques.
12. Nasolabial Folds and Marionette Lines: Discuss methods for softening these lines.
13. Emphasize the importance of patient-specific treatment plans and the selection of appropriate injection materials (e.g., hyaluronic acid fillers, neuromodulators).

Basics of Dermal Fillers and Botulinum Toxin:

14. Provide an overview of dermal fillers, including their composition, indications, duration, and potential complications.
15. Explore botulinum toxin, its mechanism of action, common uses (e.g., for dynamic wrinkles), and safety considerations.
16. Discuss the importance of dilution, reconstitution, and storage of injectables.

Patient Safety and Emergency Procedures

17. Practice safe injection techniques, Danger zone consideration including aseptic procedures and proper disposal of materials.
18. Learn to recognize and respond to potential complications or emergencies during aesthetic procedures
19.

Module 5: Botulinum Toxin and Dermal Fillers Advanced Techniques for Mid-Face and Lower Face (Evidence-Based)

Aim:

The aim of Module 5 is to provide participants with advanced knowledge and skills in the use of botulinum toxin and dermal fillers for mid-face and lower-face rejuvenation, supported by evidencebased practices. This module aims to ensure participants can deliver precise and safe treatments, manage complications effectively, and prioritize patient safety and satisfaction.

Objectives:

1. Participants should demonstrate an in-depth understanding of botulinum toxin and dermal filler treatments, including their mechanisms of action and evidence-based applications for mid-face and lower-face enhancement.
2. Participants should be able to calculate dosages accurately, considering individual patient characteristics and desired outcomes based on evidence.
3. Participants should be knowledgeable about advanced injection techniques tailored to specific facial areas and aesthetic concerns in the mid-face and lower face.

Psychomotor Domain:

1. Participants should gain proficiency in performing advanced botulinum toxin and dermal filler procedures through practical workshops and simulations, focusing on mid-face and lowerface applications.
2. Participants should practice safe and aseptic injection procedures, emphasizing precision, patient comfort, and minimizing risks of complications.
3. Participants should develop the skills required for managing complications and adverse events that may arise during advanced procedures in the mid-face and lower face.

Affective Domain:

1. Participants should prioritize patient comfort and safety during advanced procedures, promoting a positive patient experience.
2. Participants should cultivate ethical considerations, respecting patient autonomy and informed decision-making in choosing mid-face and lower-face treatments.
3. Participants should demonstrate empathy and effective communication skills to address patient concerns and manage expectations during advanced treatments, fostering trust and satisfaction based on evidence-based practices.

Details:

Cognitive Domain:

20. Provide an advanced exploration of botulinum toxin and dermal filler treatments, delving into the science, mechanisms of action, and differences between various products.

Analyse the evidence-based literature supporting the effectiveness and safety of these treatments in mid and lower face rejuvenation.

21. Discuss the off-label use of these products and the importance of staying updated with current research.

Injection Techniques, Dosage Calculations, and Safety Considerations:

22. Train students in advanced injection techniques for the mid and lower face, addressing specific concerns like nasolabial folds, marionette lines, and cheek volume restoration.
23. Teach students to calculate appropriate dosages based on individual patient needs and facial anatomy.
24. Emphasize the importance of safety measures, including patient assessments, aseptic techniques, and knowledge of anatomy to avoid complications.

Affective Domain:

Empathy and Patient-Cantered Care in Advanced Treatments:

25. Encourage students to maintain a patient-centred approach, considering individual desires and apprehensions when performing advanced treatments.
26. Stress the importance of effective communication, informed consent, and managing patient expectations for advanced procedures.
27. Promote empathy when dealing with potential adverse events or complications, ensuring that patients feel supported throughout the process.

Psychomotor Domain:

Hands-On Advanced Techniques and Simulation:

28. Provide practical hands-on training in advanced injection techniques for the mid and lower face using simulation models and mannequins.
29. Include live demonstrations or supervised sessions for students to practice injecting advanced areas.
30. Evaluate students' precision, technique, and ability to adapt to complex facial anatomy while ensuring patient comfort.

Managing Complications and Adverse Events:

31. Teach students how to recognize and manage complications and adverse events, such as vascular occlusion, product migration, or overcorrection.
32. Develop students' problem-solving skills in addressing rare and unexpected complications.

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33. Stress the importance of prompt and effective responses, including the use of hyaluronidase for dermal filler-related issues.

Module 6 a: Chemical Peels and Dermabrasion:

Aim:

The aim of Module 6a is to provide participants with a comprehensive understanding of chemical peels and dermabrasion procedures in aesthetic medicine, focusing on evidence-based practices. This module aims to equip participants with the knowledge and skills to perform these treatments effectively, ensuring patient safety and satisfaction.

Objectives:

***Cognitive Domain*:**

1. Participants should have an in-depth understanding of chemical peels, including their mechanisms, indications, and evidence-based applications.
2. Participants should be able to differentiate between various types of chemical peels and understand their appropriate use based on evidence.
3. Participants should familiarize themselves with recent advances in chemical peels and their evidence-based benefits.
4. Participants should develop an understanding of the Hydrafacial procedure, its mechanisms, and evidence-based indications.

Psychomotor Domain:

1. Participants should gain practical experience in performing chemical peel procedures, focusing on the selection of the appropriate peel type, application techniques, and patient comfort.
2. Participants should practice the use of dermabrasion techniques in a safe and effective manner.
3. Participants should develop skills for conducting Hydrafacial procedures, ensuring patient satisfaction and safety.

Affective Domain:

1. Participants should prioritize patient comfort and safety during chemical peel, dermabrasion, and Hydrafacial procedures, promoting a positive patient experience based on evidence.
2. Participants should cultivate ethical considerations, respecting patient autonomy and informed decision-making in choosing these treatments.

3. Participants should demonstrate empathy and effective communication skills to address patient concerns and manage expectations, fostering trust and satisfaction based on evidence.

Details:

Cognitive Domain:

Indications, Mechanism, and Types of Chemical Peels:

34. Provide a comprehensive overview of chemical peels, including their indications for skin concerns like pigmentation, acne, and fine lines.
35. Explain the mechanisms of action, such as chemical exfoliation, and how different types of peels (superficial, medium, deep) are used.
36. Explore the evidence-based literature supporting the efficacy of chemical peels in various skin conditions.

Recent Advances in Chemical Peels:

37. Discuss recent advancements in chemical peel formulations, delivery systems, and combination therapies.
38. Analyse the potential benefits and limitations of these advancements based on scientific research and clinical outcomes.

Hydradermabrasion:

39. Introduce the HydraFacial treatment, explaining its mechanisms, benefits, and indications.
    Discuss the integration of HydraFacial into aesthetic medicine practices and its evidencebased efficacy in skin rejuvenation.
40. Highlight the importance of patient selection and customization for HydraFacial treatments.

Affective Domain:

41. Patient Education and Informed Decision-Making:
42. Encourage students to educate patients about the benefits, expectations, and potential side effects of chemical peels and HydraFacial treatments.
43. Emphasize the importance of obtaining informed consent, setting realistic expectations, and addressing patient concerns.
44. Promote empathy when explaining potential post-treatment side effects and discomfort.

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Psychomotor Domain:

Practical Application and Safety:

45. Offer hands-on training in performing chemical peels, including proper application, layering techniques, and post-treatment care.
46. Demonstrate the safe use of dermabrasion tools and equipment.
47. Evaluate students' ability to perform these procedures safely, with attention to precision and patient comfort.

Module 6b: Laser and Energy-Based Devices

Aim:

The aim of Module 6 b is to provide participants with a comprehensive understanding of laser and energy-based devices used in aesthetic medicine. This module aims to equip participants with the knowledge and skills necessary for the safe and effective use of these devices, covering patient assessment, treatment planning, and post-treatment care.

Objectives:

Cognitive Domain:

1. Participants should gain an overview of laser and energy-based devices, including their mechanisms of action, indications, and evidence-based treatment protocols.
2. Participants should be able to identify indications for various laser and energy-based treatments, focusing on conditions such as hair removal, skin rejuvenation, and the treatment of vascular lesions.
3. Participants should demonstrate an understanding of safety measures and precautions associated with laser and energy-based procedures in aesthetic medicine.

4. Participants should develop knowledge about body sculpting techniques without surgery, encompassing modalities such as cryolipolysis, radiofrequency, ultrasound, and others, along with their indications and evidence-based applications.

Psychomotor Domain:

1. Participants should gain hands-on experience in using laser and energy-based devices for various conditions through practical workshops, ensuring competence in device operation and patient comfort.
2. Participants should practice patient assessment and treatment planning for laser and energybased procedures, developing individualized care plans based on evidence.
3. Participants should develop skills in post-treatment care and follow-up to optimize treatment outcomes and patient satisfaction.

Affective Domain:

1. Participants should prioritize patient safety, comfort, and satisfaction during laser and energybased procedures, fostering trust and a positive patient experience.
2. Participants should cultivate ethical considerations in the use of these devices, respecting patient autonomy and informed decision-making in treatment choices based on evidence.
3. Participants should demonstrate empathy and effective communication skills to address patient concerns and anxiety during procedures, emphasizing post-treatment care for longterm satisfaction and well-being.

Details:

Cognitive Domain:

Overview of Laser and Energy-Based Devices Used in Aesthetic Medicine:

1. In the cognitive domain, we aim to deepen students' understanding of laser and energybased devices. This involves explaining the underlying scientific principles and mechanisms.
2. Provide an extensive overview of the various laser and energy-based devices used in aesthetic medicine, including lasers, intense pulsed light (IPL), radiofrequency devices, ultrasound devices, and more.

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3. Explain the fundamental principles underlying these devices, such as selective photothermolysis for lasers, where specific chromophores are targeted for treatment, and controlled heating for radiofrequency and ultrasound devices.
4. Discuss the wavelengths, pulse durations, and target chromophores for different aesthetic concerns, allowing students to understand the science behind device selection.

Indications, Treatment Protocols, and Safety Measures:

1. In the cognitive domain, we aim to develop students' knowledge of indications, protocols, and safety measures for laser and energy-based treatments.
2. Explore the indications for various laser and energy-based treatments, breaking down specific applications such as hair removal, skin rejuvenation, vascular lesion removal, and body sculpting.
3. Develop comprehensive treatment protocols, emphasizing factors like device selection, energy settings, treatment intervals, and the number of sessions needed for effective results.
4. Emphasize safety measures, including eye protection, skin cooling, pre-treatment skin preparation, and potential contraindications based on patient characteristics and medical history.

Affective Domain:

Patient Education and Informed Decision-Making:

1. In the affective domain, we focus on building students' empathy and their ability to communicate effectively with patients, ensuring they make informed decisions.
2. Encourage students to engage in clear and empathetic communication with patients, explaining the benefits and potential risks of laser and energy-based procedures.
3. Highlight the importance of obtaining informed consent, including a comprehensive discussion of expected outcomes, potential side effects, and any post-treatment care.

Promote active listening to address patient concerns and ensure they feel heard and supported throughout the decision-making process.

***Ethical and Safety Considerations*:**

1. In the affective domain, we emphasize ethical principles and safety considerations, ensuring students prioritize patient well-being.

2. Stress the ethical responsibility of practitioners to provide treatments that are in the best interest of the patient and prioritize their safety over commercial interests.
3. Discuss safety considerations in depth, focusing on minimizing risks, avoiding complications, and being prepared to manage any adverse events or emergencies that may arise.
4. Encourage students to prioritize patient well-being and minimize potential risks associated with laser and energy-based treatments.

Psychomotor Domain:

Treatment of Various Conditions:

1. In the psychomotor domain, we aim to develop students' practical skills in performing laser and energy-based treatments.
2. Provide hands-on training in using laser and energy-based devices for specific conditions, offering practical experience in performing treatments.
3. Allow students to practice techniques for hair removal, skin rejuvenation, vascular lesion removal, and body sculpting under supervision to ensure precision, safety, and patient comfort.

Patient Assessment, Treatment Planning, and Post-Treatment Care:

1. In the psychomotor domain, students learn the practical aspects of patient assessment, treatment planning, and post-treatment care.
2. Train students in patient assessment, emphasizing the evaluation of skin type, treatment area, and individual needs to create personalized treatment plans.
3. Teach the development of tailored treatment plans based on the assessment, considering patient goals and the expected response to the procedure.
4. Discuss post-treatment care, including skincare recommendations, sun protection, and management of common side effects like erythema and oedema.
5. Encourage students to track patient outcomes and adjust treatment plans as needed based on the individual response to the procedure.

Cognitive Domain (Laser Theories):

To deepen the cognitive domain understanding, introduce various laser theories:

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- **Selective Photothermolysis:** Explain the concept of selectively targeting specific chromophores (melanin, haemoglobin, etc.) within the skin while avoiding damage to surrounding tissues. Discuss the impact of wavelength, pulse duration, and fluence on this theory.
- **Q-Switching:** Describe the technology used in Q-switched lasers, which produce short, highenergy pulses that effectively target pigmented lesions, tattoos, and some vascular lesions.
- **Photodynamic Therapy:** Explain how this therapy combines the application of photosensitizing agents with laser or light-based treatments to treat conditions like actinic keratosis and certain skin cancers.
- **Ablative and Non-Ablative Lasers:** Differentiate between ablative lasers (e.g., CO2 and Er:YAG) that remove the epidermis and non-ablative lasers (e.g., fractional lasers) that promote collagen remodelling without removing the entire skin surface.
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- **Module 7a: Advanced Aesthetic Procedures**

Aim:

The aim of Module 7a is to expand participants' knowledge and skills in advanced aesthetic procedures, particularly focusing on combination therapies for optimal results, emerging techniques such as thread lifting, platelet-rich plasma (PRP), mesotherapy, and the critical appraisal of new interventions. This module aims to provide participants with evidence-based practices for the delivery of safe and effective aesthetic treatments.

Objectives:

Cognitive Domain:

1. Participants should understand the principles and techniques of combining different aesthetic procedures to achieve optimal results.
2. Participants should be able to explain and apply emerging techniques such as thread lifting, PRP therapy, and mesotherapy in aesthetic medicine.
3. Participants should demonstrate the ability to critically appraise new interventions and assess their evidence base.

Psychomotor Domain:

1. Participants should develop practical skills in performing combination therapies for aesthetic enhancement, ensuring precision, patient comfort, and safety.

2. Participants should gain hands-on experience in utilizing emerging techniques, such as thread lifting, PRP therapy, and mesotherapy, through practical workshops and simulations.
3. Participants should practice critical appraisal skills to evaluate and select new interventions based on evidence and patient suitability.

Affective Domain:

1. Participants should prioritize patient comfort, safety, and satisfaction during advanced aesthetic procedures, fostering trust and a positive patient experience.
2. Participants should cultivate ethical considerations, respecting patient autonomy and informed decision-making in choosing advanced treatments.
3. Participants should demonstrate empathy and effective communication skills to address patient concerns and manage expectations during advanced procedures.

Cognitive Domain:

1. Participants should understand the application of ultrasound in aesthetic medicine, including its diagnostic and treatment uses.
2. Participants should explore the role of artificial intelligence in aesthetic medicine, understanding its potential in patient assessment and treatment planning.
3. Participants should gain knowledge about regenerative medicine in the context of aesthetic treatments and its evidence-based applications.

Details:

Cognitive Domain:

***Combination Therapies for Optimal Results*:**

1. Explore the concept of combination therapies to achieve enhanced aesthetic results by synergizing different treatment modalities.
2. Discuss evidence-based approaches to combining treatments, taking into account patient suitability and expected outcomes.
3. Analyse the scientific rationale and clinical studies supporting the effectiveness of various combination strategies.

Thread Lifting, Platelet-Rich Plasma (PRP), Mesotherapy, and Other Emerging Techniques:

1. Provide a comprehensive understanding of advanced techniques, including thread lifting, PRP therapy, and mesotherapy.
2. Explain the mechanisms of action, indications, and evidence supporting the use of these emerging procedures.
3. Explore patient selection, injection techniques, and potential complications associated with each technique.

Affective Domain:

Evidence-Based Practice and Critical Appraisal of New Interventions:

1. Foster a commitment to evidence-based practice by encouraging students to critically appraise new interventions in aesthetic medicine.
2. Emphasize the importance of staying updated with the latest research, clinical trials, and outcomes data to make informed decisions.
3. Cultivate a sense of responsibility in ensuring that new techniques are safe and efficacious before adopting them in practice.

Ultrasound in Aesthetic Medicine:

1. Promote an understanding of the use of ultrasound in aesthetic medicine, particularly for diagnostic and therapeutic purposes.
2. Discuss the importance of ultrasound in visualizing tissue structures and guiding procedures.
3. Encourage the ability to interpret ultrasound images and apply findings to clinical decisionmaking.

***Artificial Intelligence and Aesthetic Medicine*:**

1. Introduce the role of artificial intelligence (AI) in aesthetic medicine for tasks such as image analysis, treatment planning, and predictive modeling.
2. Discuss the ethical considerations, potential benefits, and limitations of AI in clinical practice.

3. Encourage students to engage in ethical discussions about AI's impact on the field.

Regenerative Medicine:

1. Provide an overview of regenerative medicine and its applications in aesthetic procedures, including stem cells, growth factors, and tissue engineering.
2. Discuss the mechanisms of tissue regeneration and the potential of regenerative approaches to improve skin quality, volume, and texture.
3. Explore the ethical considerations and patient consent related to regenerative medicine techniques.

Module 8: Introduction to Medicolegal Practice in Aesthetic Medicine

Aim:

The aim of Module 9 is to introduce participants to the medicolegal aspects of aesthetic medicine. This module provides participants with a comprehensive understanding of legal implications, regulatory bodies, ethical guidelines, and potential risks and challenges in the field of aesthetic medicine.

Objectives:

Cognitive Domain:

1. Participants will gain an overview of aesthetic medicine and its legal implications, including liability and standards of care.
2. Participants will identify and understand the regulatory bodies and legislation governing aesthetic medicine in their region or country.
3. Participants will be familiarized with professional codes of ethics and guidelines relevant to aesthetic medicine practice.

Psychomotor Domain:

1. Participants will develop practical skills in documenting patient records, ensuring compliance with legal and ethical standards.

2. Participants will practice effective communication with patients regarding informed consent and managing expectations, with an awareness of potential medicolegal risks.

Affective Domain:

1. Participants will prioritize ethical and compliant practice in aesthetic medicine, respecting patient rights and privacy.
2. Participants will cultivate awareness of medicolegal risks and challenges in aesthetic medicine and strive to mitigate them through best practices and adherence to regulations.

Details:

Cognitive Domain:

Overview of Aesthetic Medicine and Its Legal Implications:

1. Provide students with a foundational understanding of aesthetic medicine, emphasizing its scope, purpose, and the legal framework that governs its practice.
2. Explain the legal implications of aesthetic medicine, including the potential responsibilities and liabilities that practitioners may face.
3. Discuss the ethical considerations in aesthetic medicine, such as patient autonomy, informed consent, and maintaining professional boundaries.

Regulatory Bodies and Legislation Governing Aesthetic Medicine:

1. Introduce students to the regulatory bodies and agencies that oversee and govern aesthetic medicine practice in their respective regions.
2. Explain the specific legislative requirements and guidelines that practitioners must adhere to, ensuring compliance with legal standards.
3. Highlight the importance of staying informed about the evolving regulations in the field.

Affective Domain:

Professional Codes of Ethics and Guidelines:

1. Emphasize the significance of adhering to professional codes of ethics and guidelines in aesthetic medicine.
2. Encourage students to internalize and uphold ethical principles, including patient confidentiality, beneficence, non-maleficence, and justice.

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3. Promote the development of a strong moral compass and a commitment to delivering patient-centred and ethically sound care.

Medicolegal Risks and Challenges in Aesthetic Medicine:

1. Discuss the potential medicolegal risks and challenges that practitioners may encounter in their aesthetic medicine careers.
2. Foster awareness of the importance of risk management, proper documentation, and obtaining informed consent to mitigate legal issues.
3. Encourage ethical decision-making when facing legal dilemmas in clinical practice, emphasizing the well-being and rights of patients.

SECTION 11- PROGRAM STRUCTURE

Year of course	Module	Module Lead	Title of module
Year 01	**DAM 1 (1 month)**	Gen Zafar Iqbal Sheikh	Introduction to Aesthetic Medicine
	DAM 2 (2 months)	Dr. Shawana Sharif/ Dr. Iram Ashraf	Dermatology for Aesthetic Medicine
	DAM 3 (3 months)	Dr. Sakina Sadiq	Aesthetic assessment and patient consultation
	DAM 4 (3 months)	Dr. Neelum Ayub	Facial anatomy and injection techniques
	DAM5 (3 months)	Dr. Shawana Sharif/ Dr. Babar Rao	Toxin and filler advanced techniques (mid-face and lower face)
Year 02	**DAM 6 (2 months)**	Dr. Sakina Sadiq	a-Chemical peels and dermabrasion b- laser and energy based devices
	DAM 7 (3 months)	Dr, Neelum Ayub	Advanced aesthetic procedures
	DAM 8 (1 month)	Dr. Shawana Sharif/ Dr. Iram Ashraf	Medicolegal practice in aesthetic medicine

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	DAM 9 **(6 months)**		Thesis writing

- Program of Diploma in Aesthetic Medicine will be a clinical residency program
- Students will rotate in both hospitals (Benazir Bhutto Hospital and Holy Family Hospital) through all the six working days of a week, and will see clients/ patients and do the aesthetic procedures.
- Every Saturday will be academic day under supervision of faculty. There will be topic presentations, journal clubs, hands on workshops and other academic events related to the respective module.

SECTION 12: RESEARCH

Synopsis Writing Guidelines

The synopsis is a brief out line of your research work w i t h 1500 words as the maximum limit. A synopsis must have the following headings:

Title

Should reflect the objectives of the study. inconsideration PICO (population, intervention, control, and outcomes) and FINER (feasible, interesting, novel, ethical, and relevant) criteria in framing a research question or title of the study.

Introduction

Introduction provides background information and rationale for the research. Build an argument for the research and present your research question(s) and aims. Use literature citations in Vancouver style. Example……..text… (1)
It may include the literature review of the following:

- Introduce the title
- Background
- Relevance, importance and applicability
- Rationale/purpose of study specify
- Introduce the research question
- Identify research gap
- Why it is important to fill the gap
- What is known(past references)
- Narrow down from known to unknown
- What is unknown that is your research question

Introduction should not exceed 01-02 pages and should not exceed 250-300 words.

Rationale

Write down why you want to do this study. What you want to achieve by doing this research. (One paragraph)

Objective

Write clearly objective of your study aligned with research question Write using annotation.

Hypothesis

Write your hypothesis accordingly to type of study and if applicable.

Operational Definitions

Is the definition of the exposure and outcome variables of interest in context to the objective in

a particular study and their means of measurement/determination.

Material & Methods

- Study Design
- study duration
- sample size
- Sampling Technique
- inclusion criteria & exclusion criteria

Data collection

A detailed account of how the researcher will perform research; how s/he will document his variable**.**
It includes:

- Identification of the study variables
- Methods for collection of data
- Data collection tools (questionnaire with all details of variables and patient verification information)

Give method of conduction of study and data collection procedures for each study variable in detail.

Data Analysis Procedure

Relevant details naming software to be used, which descriptive statistics and which test of significance if and when required, specifying variables where it will be applied.

Ethical Considerations

This must include procedural detail information sheet along with consent form. Researcher must consider all aspects of ethics of medical research.

Estimated Cost Of The Project

Estimated cost if any and declaration certificate of cost to be borne by the researcher

Outcome & Utilization

Outcome of the study what it will help to establish.

Plan Of Work

Use a Gantt chart showing your timeline for research work and completion of your research thesis/dissertation.

References

- Must be in Vancouver Style
- At-least 10 to 15 references,
- use latest (70% should not be older than 05 years)

Annexure

Consent forms in Urdu and English must be study specific. Study Performa
Collaboration letter if any Declaration if any
If conducting a clinical trial, include consort flow diagram in data collection section and DRAP and bioethics documents properly filled as per requirements.

Format layout of Synopsis

- Each section of the synopsis must be started on a new page.
- The section in part 1, from "Supervisor's Certificate" up to the list of "Abbreviation", should be serially numbered in Roman number while the rest should be serially numbered in Arabic numerals.
- The synopsis must not contain more than 1000 words. Five hard copies printed on out 80-100 A4 size pages duly tape bind, computer-printed with double space, on one side of each page. Soft copy of synopsis should be send to *mhpe@rmur.edu.pk*
- It must have 3-cm margin, at all 4 sides of each page.
- All pages must have serial numbers at lower right hand corner.
- It must not contain any typographical errors or spelling mistakes.
- The font size should be 12 for body and 14 for headings. Title page main heading should be size 16-18.

Thesis Writing Guidelines

Thesis writing is an essential requirement for all Master's Level Programs at Rawalpindi Medical University. It is a document that contains relevant details of the research work conducted by the DAM candidates. The objective of writing a thesis is the presentation of scientific research. The candidate is expected to

-Develop a plan of research.
- Collect relevant data.
-Browse through the current literature and review the information available.
- Analyse the results and summarize them in a scientific format.
- Develop skills in technical writing.

The thesis writing cultivates an inquisitive mind, and ability to apply recent research to practice and generate local data and compare it with national and international literature.

General Information:

After the completion of data collection and analysis, thesis writing is the next step. Before the thesis is written down, all sections should be carefully outlined and discussed with the supervisor. The thesis represents original research, the work must be in the context of existing knowledge and theories and free of plagiarism.

- Each section of the thesis must be started on a new page.
- The thesis must contain 10,000 to 15,000 words i.e., about 80-100 pages. (excluding references) Pages should be A4 size pages (80 gm), typed or computer-printed with double space, on both sides of pages.

- It must have 3 cm margins on all sides of the page
- All pages must have serial numbers in the lower right corner.
- It must not contain any typographical errors or spelling mistakes.
- Font size should be 10 for text, 10 bold for subheadings, and 12 bold for headings. Chapter titles should be 14 bold in upper case.
- The font style should be Times New Roman or Arial.
- The text should be printed in double space. However, footnotes, long quotations, and captions for tables and figures can be typed in a single space. References should also be single-spaced (double-spaced between entries).
- In thesis, preliminary pages, from ‘title page’ till ‘list of abbreviations’ should be numbered in roman numerals; rest of the thesis should be numbered in English numerals.

The most common sections and their sequence are outlined below: -

- Title page
- Certificate of approval (as per given sample)
- Declaration page
- Dedication page; only two to three lines
- Acknowledgement
- Table of contents
- List of tables
- List of figures
- List of Abbreviations
- Section 1: Abstract
- Section 2: Introduction
- Section 3: Literature Review
- Section 4: Methodology
- Section 5: Analysis of data and results

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    - Section 6: Discussion
    - Section 7: Conclusion and recommendation
    - Section 8: References (Use Vancouver style referencing)
    - Section 9: Appendices

Title page

A title page provides the reader with practical information about your thesis: An illustration of RMU monogram should be at the top of the page followed by,

- The topic of thesis: in bold upper case letters at the top.
- Name of author, in the order of first, middle and last name along with the highest qualification achieved.
- Department name.
- Name of programme/study line.
- Name of the supervisor with his/her highest qualification. Date/month /year of submission.

Supervisor's certificate

It should be as per the approved format of the university and duly signed by the supervisor.

Declaration page / Dedication page / Acknowledgement

It is optional. If you want to dedicate your work to someone or you want to declare or acknowledge the contribution of someone in your research work you can use these pages. It should be brief, only in two or three lines.

Table of contents

The table of contents gives the reader a quick overview of your work. The index shows first- level headings and page numbers for each section including annexures. It may also display second and third-level headings (subheadings) if used within each section. The list should be numbered in Roman numbers.

List of tables

If any tables are used, enlist them according to their page number. A table should be on a separate page.

List of figures

If figures are used, enlist them according to their page number.

Abbreviations

It contains all the significant abbreviations used in the thesis.

Section-1 Abstract

The purpose of the abstract is to help the reader to quickly ascertain the purpose and conclusions of your thesis or in other words to understand why your thesis is important. An abstract is written in past tense, under following headings:

- Introduction
- Objectives
- Materials and Methods
    - Study design
    - Setting
    - Study duration
- Study population (inclusion and exclusion criteria)
- Data collection procedure
- Results
- Conclusion
- Keywords (3-10). Selected key words should be from Medical Subject Headings (MeSH), list of index.

An abstract presents your problem formulation, methods and main results and describes how the thesis makes a difference in your field. An abstract is rarely more than half to one-page long.

Section-2 Introduction

The introduction chapter needs to state the objectives of the program of research, include definitions of the key concepts and variables and give a brief outline of the background and research approach. The introduction aims to contextualize the proposed research. In the opening paragraph, give an overall view of what is included in the chapter. For example:

'*This chapter outlines the background (section 0) and context (section 0) of the research, and its purposes (section 0). Section 0 describes the significance and scope of this research and provides definitions of terms used. Finally, section 0 includes an outline of the remaining chapters of the thesis'.*

Background

Give the background of the problem to be explored in your study and what led you to do this project. For example, you might discuss educational trends related to the problem, unresolved issues, and social concerns. You might also include some personal background.

Context

Outline the context of the study (i.e., the major foci of your study) and state the problem situation (basic difficulty – area of concern, felt need).

Purposes

Define the purpose and specific aims and objectives of the study. Emphasise the practical outcomes or products of the study. Delineate the research problem and outline the questions to be answered or the overarching objectives to be achieved.

Significance, Scope and Definitions

Discuss the importance of your research in terms of the topic (problem situation), the methodology, and the gap in the literature. Outline the scope and delimitations of the study (narrowing of focus). Define and discuss terms to be used (largely conceptual here; operational definitions may follow in the "Research Design" chapter).

Thesis Outline

Outline the chapters for the remainder of your thesis.

Section-3 Literature Review

Review of literature provides background information and rationale for the research. An argument must be built for the research and research question(s)/aims to be presented. International and local literature must be cited logically. Citation should be in Vancouver style. Most of the references should be from the last five years. Older references are also acceptable provided they are relevant and historical.

The literature review chapter should demonstrate a thorough knowledge of the area and provide arguments to support the study focus. The literature review chapter aims to delineate various theoretical positions and from these, develop a conceptual framework for the generation of hypotheses and setting up the research question. The literature review chapter needs to:

- Critically evaluate the literature rather than merely describe previous literature (i.e., what is good/bad about the body of literature?).
- Show a synthesis and be integrated rather than being more like an annotated bibliography.
- Identify key authors and the key works in the area, thus acquainting the reader with existing studies relative to what has been found, who has done work, when and where the latest research studies were completed and what approaches to research methodology were followed (literature review of methodology sometimes saved for the "methodology" chapter).

- Constitute an argument.
- Identify the gap in the literature that is being addressed by the research question.
- Suitable sources for the literature review include:
  - General integrative reviews are cited that relate to the problem situation or research problem such as those found in psychological and sociological reviews of research.
  - Specific books, monographs, bulletins, reports, and research articles – preference shown in most instances for the literature of the last 5 years.

The literature review chapter can be arranged in terms of the questions to be considered or objectives/purposes set out in the Introduction chapter.

Summarise the literature review and discuss the implications from the literature for your study – the theoretical framework for your study. Here you can make an explicit statement of the hypotheses, propositions or research questions and how they are derived from existing theory and literature. Establish from the literature (or gap in the literature) the need for this study and the likelihood of obtaining meaningful, relevant, and significant results. Outline any conceptual or substantive assumptions, the rationale and the theoretical framework for the study. Explain the relationships among variables or comparisons and issues to be considered. This section should demonstrate the contribution of the research to the field, and be stated in a way that leads to the methodology.

Section-4 Methodology

In this section, you will describe detail of your research methodology. The following items must be included as sub-headings with relevant details.

- Hypothesis
- Objectives
- Operational definitions
- Materials and methods

Discuss the methodology to be used in your study (e.g., experimental, quasi-experimental, correlational, casual-comparative, survey, discourse, case study, analysis, action research). If using stages, outline them here. The methods used must link explicitly to the research question and must be suited

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to the nature of the question. Discuss any methodological assumptions.

i. Study design

Outline the research design (e.g., quantitative, qualitative). If quantitative, spell out the independent, dependent and classificatory variables (and sometimes formulate an operational statement of the research hypothesis in null form to set the stage for an appropriate research design permitting statistical inferences). If qualitative, explain and support the approach taken and briefly discuss the data gathering procedures that were [will be] used (observations, interviews, etc.)

ii. Study population/participants

Give details of the participants (were/will be) of your study also include if applicable, sample type and size, reasons for the number selected and the basis for selection).

iii. Inclusion exclusion criteria

iv. Study setting (Name and place where research work was done. Whether it was done in a community, hospital or laboratory.

v. Study duration vi. Sampling technique vii. Size of the sample (If there were groups, mention how many were in each group)

viii. Data collection detail procedure/tools. questionnaire

List and briefly describe all the instruments (e.g., tests, measures, surveys, observations, interviews, questionnaires, artifacts) [to be] used in your study for data collection and discuss their theoretical underpinnings, that is, justify why you used these instruments. So that the line of argument is not broken, it is useful to place copies of instruments in Appendices to which this section can refer.

ix. Analysis details (tests and software used)

This section describes the method/s you used to answer the question(s) raised in your problem formulation. Your information concerning methods should

both allow the reader to assess the validity of your results and (particularly for quantitative research) ultimately make it possible for another researcher to get the same results by completing the same work as you.

Section-5 Analysis of data

Discuss how the data was processed and analyzed (e.g., statistical analysis, discourse analysis).

This section needs to link the analysis of the research to the methods and demonstrate why this was the best approach to analysis. For qualitative research, justification needs to be provided for methods such as coding and dealing with divergent data. For quantitative research, justification of the choice of statistics and the expected results that they will provide should be described. There should be enough detail for the reader to replicate the analysis. For example, "NVivo or SPSS will be used" is not adequate. Rather, the approach to coding, including how categories were derived and validated, how the data was structured, and specific analytical techniques applied, should be included.

Section-6 Results

In this section, you have to report the results of your study – your data and their analysis. Remember that you are not only expected to present raw data, they should be analyzed and presented in an overview for this purpose. You may therefore need to describe very briefly how you collected your raw data and how you processed and analyzed these. Data may be displayed in the form of tables or figures which enables you and the reader to make sense of it, but in a lot of qualitative research, it is merely the explanation in words that constitutes the results. You can put some analysis of the results here, but generally, just the results are presented, without interpretation, inference, or evaluation The results should be linked inextricably to the design – describe what happened factually and unemotionally. However, in certain historical, case- study and anthropological investigations, factual and interpretive material may be interwoven rather than being presented as "findings".

Include a paragraph at the beginning of the 'Results' chapter outlining the structure of the chapter. The results should be reported to furnish evidence for

your research question(s). Thus, you might choose to use headings that correspond to each main question of your hypothesis/objectives and/or your theoretical framework. Or you might organise your results in terms of the stages of the study (if applicable).

Results should mention, the number of subjects at the start of the study, along with the number of subjects who were excluded, dropped out or lost at any point during the study.

Present the findings/results in tables or charts when appropriate, making sure to use correct formatting for any tables used. Data shown in the form of tables/ figures should not be repeated in the text; only important observations should be summarized.

Section-7 Discussion

The discussion is the key section of your thesis. The purpose of the discussion is to explain the central results and potential implications of your study. This is where you scrutinize your results and where the choice of method(s) is discussed including the possible influence of methodological bases and errors on data validity.

The discussion should also address general limitations and weaknesses of the study and comment on these. Importantly, you have to discuss conflicting explanations for your results and defend your thesis argument by systematically relating your problem formulation and empirical findings to the existing body of knowledge and/or theory as outlined by your

literature review. The discussion of your results and final thesis argument should form the basis for your conclusions.

Results of the study should be compared with the published national and international literature and in case a discrepancy is present, it needs to be explained. Similarities and differences between the findings of your study and those of others should be brought out and analyzed.

If your study was based on some hypothesis, mention whether the hypothesis stands supported or refuted by your results. Lastly, mention the importance of your study and its implications for future clinical practice.

Section-8 Conclusions

The conclusions section is where you summarize your answer(s) to the questions posed in your problem formulation. What is the strongest statement you can make based on your findings?

This chapter contains conclusions, limitations, and recommendations – so what is the theory? Where to from here? What are the practical implications? Discussion of where the study may be extended.

Again, the chapter should begin with a summary paragraph of the chapter structure. The opening section(s) of the chapter should be a summary of everything covered so far. Follow this with your conclusions. This is the "so what" of the findings – often the hypothesis/research question(s) restated as inferences with some degree of definitive commitment and generalisability, and the raising of new and pertinent questions for future research. You could include a final model of the theory.

The chapter should also include a discussion of any limitations of the research and should end with your final recommendations – practical suggestions for implementation of the findings/outcomes or additional research.

Recommendations or Perspectives: -

The final section involves the last part of your academic performance; how to launch the results and conclusions into the future. Is there a need for further investigation and how? What are the perspectives of your results and conclusions? The perspectives are where you once again broaden the thesis and point

out where your results can be implemented. Recommendations are sometimes included in the conclusions.

Section-9 References

The list of references contains a formalized description of all the sources, e.g., journal articles, reports, books etc. that are cited directly in the text of your thesis. References are numbered consecutively in order of appearance in the text. In the text, number of reference should be added as superscript at the end of the sentence.

You should apply the referencing system suggested/required by thesis guidelines. Here at RMU, we recommend "Vancouver Standard".

The referencing can be done using the referencing software. References can be written in single space with extra space between references as in the format below. There are many different ways to arrange the information and punctuation in a reference listing. The most important thing is to make sure all references are complete and that the format of your references is consistent throughout.

At least 50 references should be cited and 50% of the references should be within the last 5 years.

Section-10 Annexures

The following may be attached along with your thesis or submitted to research unit:

- Approved copy of your synopsis
- Certificate of Approval of Board of Advanced Studies and Research
- Ethical review board approval (IRF/ERB)

- Similarity index less than 20% PDF report
- Supervisory certificate
- Study Performa

Submission of thesis

- Five hard copies printed on out 80-100 A4 size pages duly hardbound, computer- printed with double space, on both sides of the page, should be submitted. A soft copy of the thesis should also be sent to basr.rmu.pk@gmail.com.
- After approval of the thesis, the same may be submitted to a medical journal for publication with the name of the candidate as the first author of the article.

SECTION 13: EVALUATION AND ASSESSMENT STRATEGIES

Charting the Road to Competence: Developmental Milestones for Diploma in aesthetic medicine Program

High-quality assessment of student performance is needed to guide individual student's development and ensure their preparedness to provide patient care. .Milestones promote competency based training in dermatology. Residency program directors may use them to track the progress of trainees in the 6 general competencies including ***patient care, medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism and Systems-Based Practice.*** Mile stones inform decisions regarding promotion and readiness for independent practice. In addition, the milestones may guide curriculum development, suggest specific assessment strategies, provide benchmarks for resident self-directed assessment-seeking, assist remediation by facilitating identification of specific deficits, and provide a degree of national standardization in evaluation. Finally, by explicitly enumerating the profession's expectations for graduates, they may improve public accountability for residency training.

Aims:

1. To fulfil the need of Modernization of the Assessment strategies.
2. To structure the Assessment strategies.
3. To shift the paradigm from an Examination Oriented System towards a Training Oriented System.

The curriculum of Diploma in aesthetic medicine of Rawalpindi Medical University Rawalpindi is derived from **Accreditation Council for Graduate** which is competency / performance based system depends upon six following competencies.

1. **Medical Knowledge**

2. **Patient Care**
3. **Interpersonal & Communication Skills**
4. **Professionalism**
5. **Practice Based Learning**
6. **System Based Learning**

Model of examination for Diploma in aesthetic medicine Rawalpindi Medical University:

Distribution of weightage (if we consider total marks as 100) among various desired competencies of RMU Aesthetic Medicine curriculum:

1. medical knowledge	40% both
2. Patient care	
3. Interpersonal & communication skills	40% both
Professionalism 4.	
5. Practice based learning	20% both
6. System based learning	

Continuous Internal Assessment:

Details about various competencies required for Diploma in aesthetic medicine along with brief details of Teaching Strategies, Type of Assesment, weightage given to the competency & Tools of Assesment:

Sr. No	Competency to be assessed	Teaching & learning strategies	Type of Assessment for the competency to be assessed	% weightage of the competency	Tools of Assessment
1.	Medical knowledge	Case based discussion & problem based learning, large group interactive session, self-directed learning, teaching rounds, and literature search.	Formative Assessment leading to continue internal assessment and also summative assessment in high stake exams	40% for both medical Knowledge and Patient Care both	MCQs, Directly observe procedure, mini clinical examinations, charts, OSCE, case discussion, seminars, topic presentation
2.	Patient care	Case based discussion, teaching rounds, morbidity & mortality meetings, 360^0 feedback evaluation, DOPS, long case/ short case discussions OPDs, emergency indoor workshops, hands on trainings.	Formative assessment leading to continue internal assessment and also summative assessment in high stake exams		case base discussion, presentations, CPC participations, clinical management, problem base learning, peer assisted learning, dealing with paramedics & patient attendants
3.	Professionalism	Teaching rounds, known conferences, workshops,		40% for both	DOPs, clinical case discussion, dealing with

		hands on training, CPC, morbidity & mortality meetings, journal club	Formative assessment leading to continue internal assessment	professionalism & interpersonal communication skillsboth	paramedics, meeting with supervisor & mentors, mini clinical examination
4.	Interpersonal & communication skills	Teaching rounds, hands on training, workshops related to research methodology, SPSS, data entry, LGIS, session with supervisor & mentors, session with research units, SDL,	Formative assessment leading to continuous internal assessment		Multi source evaluation.
5.	Practice based learning	Case based discussion, teaching rounds, known conferences, morbidity & mortality meetings, OPDs, emergency indoor workshops, hands on trainings.	Formative assessment leading to continuous internal assessment Multi source & 360 degree evaluation (Logbook & portfolio)	10% both Practice Based Learning & System Based Learning both	Working in clinics DOPs, clinical case discussion, dealing with paramedics, meeting with supervisor & mentors, mini clinical examination
6.	System based learning	Working in wards, OPDs, Emergency	Formative assessment leading to continuous internal assessment Multi source & 360 degree evaluation (Logbook & portfolio)		Working in clinics DOPs, clinical case discussion, dealing with paramedics, meeting with supervisor & mentors, mini clinical examination

A crisp detail about modern Tools of Assessment intended to be used for the course

- **CHECKLIST EVALUATION**

  Checklists consist of essential or desired specific behaviors, activities, or steps that make up a more complex competency or competency component. Typical response options on these forms are a check ( ) or "yes" to indicate that the behavior occurred or options to indicate the completeness (complete, partial, or absent) or correctness (total, partial, or incorrect) of the action. The forms provide information about behaviors but for the purpose of making a judgment about the adequacy of the overall performance, standards need to be set that indicate, for example, pass/fail or excellent, good, fair, or poor performance. Checklists are useful for evaluating any competency and competency component that can be broken down into specific behaviors or actions. Documented evidence for the usefulness of checklists exists for the evaluation of patient care skills (history and physical examination, procedural skills) and for interpersonal and communication skills. Checklists have also been used for self-assessment of practice-based learning skills (evidence-based medicine). Checklists are most useful to provide feedback on performance because checklists can be tailored to assess detailed actions in performing a task.

- **GLOBAL RATING OF LIVE OR RECORDED PERFORMANCE**

  Global rating forms are distinguished from other rating forms in that (a) a rater judges general categories of ability (e.g. patient care skills, dermatological knowledge, interpersonal and communication skills) instead of specific skills, tasks or behaviors; and (b) the ratings are completed retrospectively based on general impressions collected over a period of time (e.g., end of a clinical rotation) derived from multiple sources of information (e.g., direct observations or interactions; input from other faculty, residents, or patients; review of work products or written materials). All rating forms contain scales that the evaluator uses to judge knowledge, skills, and behaviors listed on the form. Typical rating scales consist of qualitative indicators and often include numeric values for each indicator, for example, (a) very good = 1, good =2, fair = 3, poor =4; or (b) superior =1, satisfactory
  =2, unsatisfactory =3. Written comments are important to allow evaluators to explain the ratings.Global rating forms are most often used for making end of rotation and summary assessments about performance observed over days or weeks. Scoring rating forms entails combining numeric ratings with comments to obtain a useful judgment about performance based upon more than one rater.

- **OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)**

  In an objective structured clinical examination (OSCE) one or more assessment tools are administered at 12 to 20 separate standardized patient encounter stations, each station lasting 10-15 minutes. Between stations candidates may complete patient notes or a brief written examination about the previous patient

encounter. All candidates move from station to station in sequence on the same schedule. Standardized patients are the primary assessment tool used in OSCEs, but OSCEs have included other assessment tools such as data interpretation exercises using clinical cases and clinical scenarios with mannequins, to assess technical skills.OSCEs have been administered in most of the dermatological schools worldwide, many residency programs, and by the licensure board examinations. The OSCE format provides a standardized means to assess: physical examination and history taking skills; communication skills with patients and family members, breadth and depth of knowledge; ability to summarize and document findings; ability to make a differential diagnosis, or plan treatment; and clinical judgment based upon patient notes.

- **PROCEDURE, OPERATIVE, OR CASE LOGS**

Procedure, operative, or case logs document each patient encounter by dermatological conditions seen, surgical operation or procedures performed. The logs may or may not include counts of cases, operations, or procedures. Patient case logs currently in use involve recording of some number of consecutive cases in a designated time frame. Operative logs in current use vary; some entail comprehensive recording of operative data by CPT code while others require recording of operations or procedures for a small number of defined categories.

Logs of types of cases seen or procedures performed are useful for determining the scope of patient care experience. Regular review of logs can be used to help the resident track what cases or procedures must be sought out in order to meet residency requirements or specific learning objectives. Patient logs documenting clinical experience for the entire residency can serve as a summative report of that experience; as noted below, the numbers reported do not necessarily indicate competence.

- **PATIENT SURVEYS**

Surveys of patients to assess satisfaction with hospital, clinic, or office visits typically include questions about the physician's care. The questions often assess satisfaction with general aspects of the physician's care, (e.g., amount of time spent with the patient, overall quality of care, physician competency (skills and knowledge), courtesy, and interest or empathy). More specific aspects of care can be assessed including: the physician's explanations, listening skills and provision of information about examination findings, treatment steps, and drug side effects. A typical patient survey asks patients to rate their satisfaction with care using rating categories (e.g., poor, fair, good, very good, excellent) or agreement with statements describing the care (e.g., "the doctor kept me waiting," -- Yes, always; Yes, sometimes; or No, never or hardly ever). Each rating is given a value and a satisfaction score calculated by averaging across responses to generate a single score overall or separate scores for different clinical care activities or settings. Patient feedback accumulated from single encounter questionnaires can assess satisfaction with patient care competencies (aspects of data gathering, treatment, and management; counseling, and education; preventive care); interpersonal and communication skills; professional behavior; and aspects of systems-based practice (patient advocacy; coordination of care).

If survey items about specific physician behaviors are included, the results can be used for formative evaluation and performance improvement. Patient survey results also can be used for summative evaluation, but this use is contingent on whether the measurement process meets standards of reliability and validity.

- **PORTFOLIOS**

A portfolio is a collection of products prepared by the resident that provides evidence of learning and achievement related to a learning plan. A portfolio typically contains written documents but can include video- or audiorecordings, photographs, and other forms of information. Reflecting upon what has been learned is an important part of constructing a portfolio. In addition to products of learning, the portfolio can include statements about what has been learned, its application, remaining learning needs, and how they can be met. In graduate dermatological education, a portfolio might include a log of clinical procedures performed; a summary of the research literature reviewed when selecting a treatment option; a quality improvement project plan and report of results; ethical dilemmas faced and how they were handled; a computer program that tracks patient care outcomes; or a recording or transcript of counseling provided to patients. Portfolios can be used for both formative and summative evaluation of residents. Portfolios are most useful for evaluating mastery of competencies that are difficult to evaluate in other ways such as practice-based improvement, use of scientific evidence in patient care, professional behaviors, and patient advocacy. Teaching experiences, morning report, patient rounds, individualized study or research projects are examples of learning experiences that lend themselves to using portfolios to assess residents.

- **RECORD REVIEW**

Trained staff in an institution's dermatological records department or clinical department perform a review of patients' paper or electronic records. The staff uses a protocol and coding form based upon predefined criteria to abstract information from the records, such as medications, tests ordered, procedures performed, and patient outcomes. The patient record findings are summarized and compared to accepted patient care standards. Standards of care are available for more than 1600 diseases on the Website of the Agency for HealthCare Research and Quality (http://www.ahrq.gov/).Record review can provide evidence about clinical decision- making, followthrough in patient management and preventive health services, and appropriate use of clinical facilities and resources (e.g., appropriate laboratory tests and consultations). Often residents will confer with other clinical team members before documenting patient decisions and therefore, the documented care may not be directly attributed to a single resident but to the clinical team.

- **SIMULATIONS AND MODELS**

Simulations used for assessment of clinical performance closely resemble reality and attempt to imitate but not duplicate real clinical problems. Key attributes of simulations are that: they incorporate a wide array of options resembling reality, allow examinees to reason through a clinical problem with little or no cueing, permit examinees to make life-threatening errors without hurting a real patient, provide instant feedback so examinees can correct a mistaken action,

and rate examinees' performance on clinical problems that are difficult or impossible to evaluate effectively in other circumstances. Simulation formats have been developed as paper-and- pencil branching problems (patient management problems or PMPs), computerized versions of PMPs called clinical case simulations (CCX®), role-playing situations (e.g., standardized patients (SPs), clinical team simulations), anatomical models or mannequins, and combinations of all three formats. Mannequins are imitations of body organs or anatomical body regions frequently using pathological findings to simulate patient disease. The models are constructed of vinyl or plastic sculpted to resemble human tissue with imbedded electronic circuitry to allow the mannequin to respond realistically to actions by the examinee. Virtual reality simulations or environments (VR) use computers sometimes combined with anatomical models to mimic as much as feasible realistic organ and surface images and the touch sensations (computer generated haptic responses) a physician would expect in a real patient. The VR environments allow assessment of procedural skills and other complex clinical tasks that are difficult to assess consistently by other assessment methods.Simulations using VR environments have been developed to train and assess surgeons performing arthroscopy of the knee and other large joints, anesthesiologists managing life-threatening critical incidents during surgery, surgeons performing wound debridement and minor surgery, and dermatological students and residents responding to cardio-pulmonary incidents on a full-size human mannequin. Written and computerized simulations have been used to assess clinical reasoning, diagnostic plans and treatment for a variety of clinical disciplines as part of licensure and certification examinations. Standardized patients as simulations are described elsewhere.

- **STANDARDIZED ORAL EXAMINATION**

  The standardized oral examination is a type of performance assessment using realistic patient cases with a trained physician examiner questioning the examinee. The examiner begins by presenting to the examinee a clinical problem in the form of a patient case scenario and asks the examinee to manage the case. Questions probe the reasoning for requesting clinical findings, interpretation of findings, and treatment plans. In efficiently designed exams each case scenario takes three to five minutes. Exams last approximately 90 minutes to two and one-half hours with two to four separate 30 or 60-minute sessions. One or two physicians serve as examiners per session. An examinee can be tested on 18 to 60 different clinical cases.These exams assess clinical decision- making and the application or use of dermatological knowledge with realistic patients. Multiple-choice questions are better at assessing recall or understanding of dermatological knowledge.

- **STANDARDIZED PATIENT EXAMINATION (SP)**

  Standardized patients (SPs) are well persons trained to simulate a dermatological condition in a standardized way or actual patients who are trained to present their condition in a standardized way. A standardized patient exam consists of multiple SPs each presenting a different condition in a 10-12 minute patient encounter. The resident being evaluated examines the SP as if (s) he were a real patient, (i.e., the resident might perform a history and physical exam, order tests, provide a diagnosis, develop a treatment plan, or counsel the patient). Using a checklist or a rating form, a physician observer or the SPs evaluate the

resident’s performance on appropriateness, correctness, and completeness of specific patient care tasks and expected behaviors (See description of Checklist Evaluation…). Performance criteria are set in advance. Alternatively or in addition to evaluation using a multiple SP exam, individual SPs can be used to assess specific patient care skills. SPs are also included as stations in Objective Structured Clinical Examinations (See description of OSCE).SPs have been used to assess history-taking skills, physical examination skills, communication skills, differential diagnosis, laboratory utilization, and treatment. Reproducible scores are more readily obtained for history-taking, physical examination, and communication skills. Standardized patient exams are most frequently used as summative performance exams for clinical skills. A single SP can assess targeted skills and knowledge.

- **WRITTEN EXAMINATION (MCQ)**

  A written or computer-based MCQ examination is composed of multiple-choice questions (MCQ) selected to sample dermatological knowledge and understanding of a defined body of knowledge, not just factual or easily recalled information. Each question or test item contains an introductory statement followed by four or five options in outline format. The examinee selects one of the options as the presumed correct answer by marking the option on a coded answer sheet. Only one option is keyed as the correct response. The introductory statement often presents a patient case, clinical findings, or displays data graphically. A separate booklet can be used to display pictures, and other relevant clinical information. In computer-based examinations the test items are displayed on a computer monitor one at a time with pictures and graphical images also displayed directly on the monitor. In a computer-adaptive test fewer test questions are needed because test items are selected based upon statistical rules programmed into the computer to quickly measure the examinee’s ability.Dermatological knowledge and understanding can be measured by MCQ examinations. Comparing the test scores on in-training examinations with national statistics can serve to identify strengths and limitations of individual residents to help them improve. Comparing test results aggregated for residents in each year of a program can be helpful to identify residency training experiences that might be improved.

- **mini-Clinical Evaluation Exercise (mini-CEX)**

  This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. The can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available.

- **Direct Observation of Procedural Skills (DOPS)**

  A DOPS is an assessment tool designed to evaluate the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify strengths and areas for development.

- **Case-based Discussion (CbD)**

The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision-making and application of dermatological knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CbD should focus on a written record (such as written case notes, out-patient letter, and discharge summary). A typical encounter might be when presenting newly referred patients in the out- patient department.

- **Audit Assessment (AA)**
  The Audit Assessment tool is designed to assess a trainee's competence in completing an audit. The Audit Assessment can be based on review of audit documentation OR on a presentation of the audit at a meeting. If possible the trainee should be assessed on the same audit by more than one assessor.

- **Teaching Observation (TO)**
  The Teaching Observation form is designed to provide structured, formative feedback to trainees on their competence at teaching. The Teaching Observation can be based on any instance of formalized teaching by the trainee who has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

- **Decisions on progress (ARCP)**
  The Annual Review of Competence Progression (ARCP) is the formal method by which a trainee's progression through her/his training programme is monitored and recorded. ARCP is not an assessment – it is the review of evidence of training and assessment. The ARCP process is described in A Reference Guide for Postgraduate Specialty Training in the UK (the "Gold Guide" – available from www.mmc.nhs.uk). Deaneries are responsible for organising and conducting ARCPs. The evidence to be reviewed by ARCP panels should be collected in the trainee's ePortfolio.

SECTION 14: DETAILS OF ASSESSMENT

Formative

Will be done through a variety of instruments for constant feedback.

Summative:

Written Semester Exams

A semester exam will be held after every 6 Months. Each semester exam will have 100 MCQs (1 Mark each)

Semester 1 Exam

- 50 MCQs- Module 1 and 2
- 50 MCQs- Module 3

Semester 2 Exam

- 50 MCQs- Module 4
- 50 MCQs- Module 5

Semester 3 Exam

- 50 MCQs- Module 6 and 8
- 50 MCQs- Module 7

OSCE Exam

One OSCE exam will be held with Semester 3

12 stations- 10 Marks each

Thesis Defense

Will be held at the end of the program

SECTION 15- RECOMMENDED BOOKS AND JOURNALS

1. Textbook of Cosmetic Dermatology
2. Illustrated guide to aesthetic botulinum toxin injections
3. Illustrated guide to injectable fillers
4. Injectable fillers in Aesthetic medicine
5. Microneedling
6. Chemical peels, microdermabrasion, and topical products
7. Atlas of mesotherapy in skin rejuvenation
8. Lasers in Dermatology, parameters and choice
9. Soft tissue fillers
10. Toxins
11. Non-surgical rejuvenation of Asian faces
12. Non-surgical thread procedures
13. PRF in surgical Aesthetics
14. Radiofrequency in cosmetic dermatology
15. Dermatological surgery with radiofrequency
16. Techniques in the evaluation and management of hair diseases
17. Peer reviewed journal