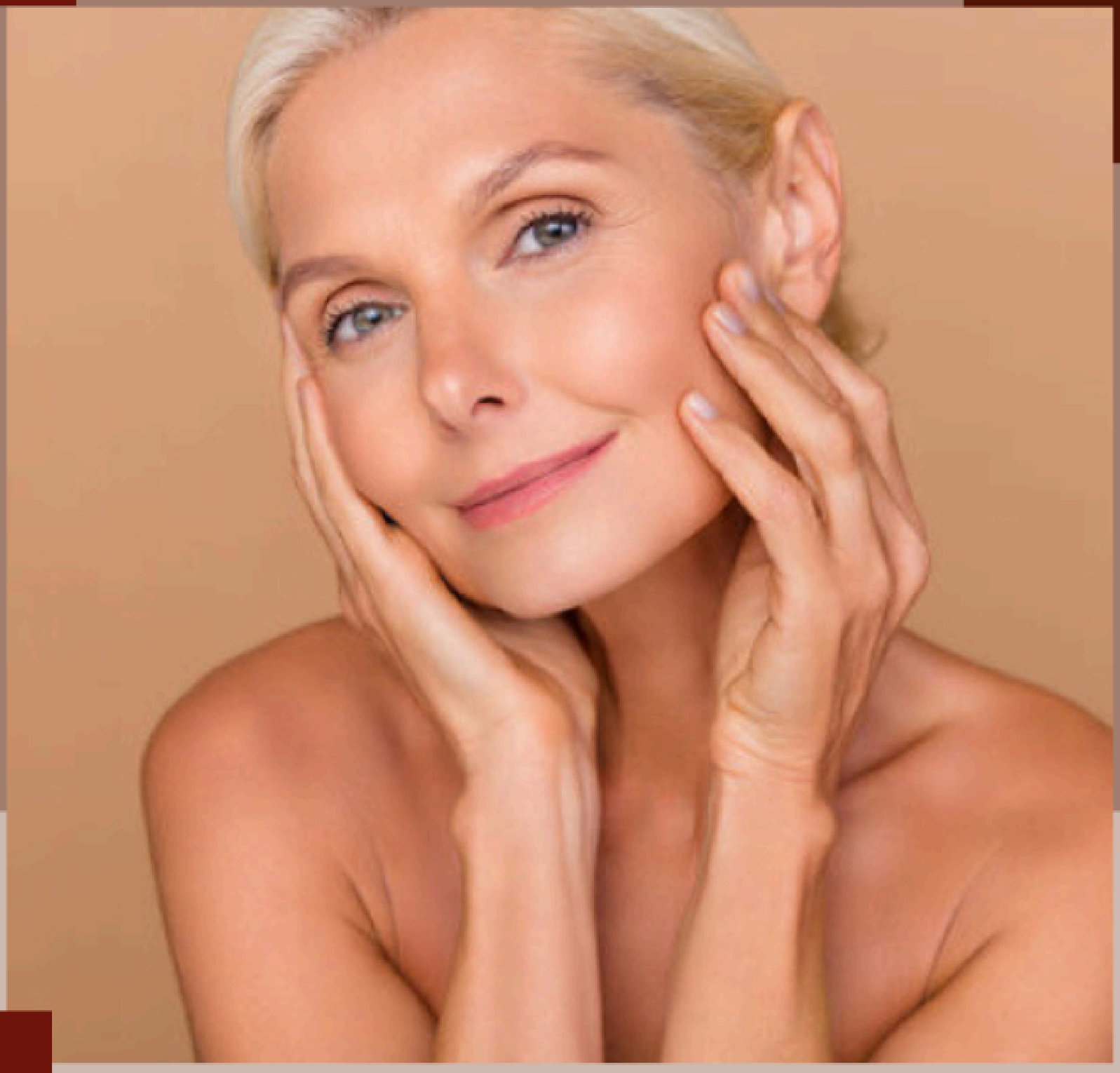
ESSENTIALS OF HORMONE THERAPY FOR ANTI-AGING

CBAM Aesthstic Mastery Series



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Dr. Reza Akef is a highly experienced and respected cosmetic physician, with over 15 years of experience in teaching and practicing cosmetic medicine. He is currently the Assistant Professor at McMaster University and the Chairman of the Canadian Board of Aesthetic Medicine (CBAM), where he shares his knowledge and expertise with other healthcare professionals to provide the best care for their patients.

Dr. Akef is board certified by the College of Family Physicians of Canada in both Family and Emergency Medicine. Additionally, he is deeply involved in interventional pain practice cooperation for the treatment of Migraines, chronic pain, TMJ, Myofascial pain, and Fibromyalgia. He is a leading cosmetic physician and an internationally recognized specialist in non-surgical cosmetic procedures.

Dr. Akef is dedicated to understanding his clients' concerns and creating personalized treatment plans that meet their needs and goals. He is committed to thoughtfully and strategically creating individualized combinations of leading, safe treatments that exceed client expectations. He is also the founder of Angel Gloss spa in Toronto, an established, leading destination for non-surgical cosmetic procedures for individuals seeking leading physicians with proven experience, the latest technology, and cutting-edge techniques.

Dr. Akef is actively involved in multiple training courses, webinars, and conferences all around the world, including prestigious international conferences such as IMCAS, AMWC, and Dubai Derma. He participates as a speaker at these events and is always looking to stay up to date with the latest developments in the field of cosmetic medicine.

Mohsen Talani is the Director of CBAM. He has over 18 years of experience teaching anatomy in Canada and internationally to students and healthcare practitioners in different fields of medicine such as physicians, dentists, nurses, chiropractors, and physiotherapists.

After graduating from medical school at a young age, he became a medical doctor in his home country, Iran, and practiced in the field of emergency medicine. While pursuing his Master's thesis in neuroscience at McGill University, he discovered his passion for teaching. Since then, he has been working in the field of medical science education, with a focus on anatomy.

He strongly believes that with the rapidly growing aesthetic industry, all practitioners should have a profound knowledge of skin basics, fat compartments, muscles, blood vessels, and nerves, in order to provide safe and effective care to clients and prevent or minimize post-treatment complications linked to lack of anatomy knowledge.

He is currently training healthcare practitioners who seek to have a deep knowledge of anatomy. He incorporates fun, innovative, and easy-to-understand methods of teaching in all of his classes, guest lectures, and presentations. Additionally, he supervises the cadaver lab dissections and hands-on practicals.

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Preface

Hormone therapy is one of the most discussed and, at times, one of the most misunderstood areas in modern aesthetic and anti-aging medicine. In daily practice, clinicians increasingly meet patients who are not only concerned about wrinkles, skin quality, hair thinning, or body composition, but also about fatigue, poor sleep, low libido, reduced vitality, mood changes, and the sense that they no longer feel like themselves. Very often, these concerns exist together. The patient who asks about facial aging may also be struggling with hormonal symptoms. The patient seeking better energy or sexual wellness may also be worried about visible aging. This overlap is what makes the study of hormones so relevant to aesthetic medicine.

At the same time, hormone therapy must be approached with caution and clinical maturity. It is not a beauty treatment, not a shortcut to youth, and not a casual intervention. Hormones affect multiple organ systems and influence sleep, metabolism, mood, body composition, sexual health, skin quality, and tissue function. Because of this, any attempt to use hormone-based treatment without proper assessment, scientific reasoning, and careful monitoring can lead to inappropriate prescribing, unrealistic expectations, and patient harm.

This book was written to provide a practical and clinically grounded guide for practitioners who want to understand hormone therapy within the setting of aesthetic and anti-aging medicine. It is designed for readers who want more than simplified wellness language and more than fragmented online information. The aim is to present hormone therapy in a structured way that connects physiology, patient assessment, symptom interpretation, treatment planning, and clinical responsibility.

The purpose of this book is not to encourage overuse of hormones or to present hormone therapy as the answer to every complaint associated with aging. Instead, it is meant to help clinicians understand where hormone-related interventions may have value, where caution is necessary, and where non-hormonal approaches or specialist referral may be more appropriate. In this way, the book reflects a practical medical mindset: identify the problem clearly, assess the patient carefully, treat only when justified, and monitor responsibly.

Because this book is intended for use in clinical and educational settings, special attention is given to practicality. The treatment-oriented sections are designed to be easier to use, with concise clinical frameworks, quick-reference tables, and structured summaries that support day-to-day practice. The goal is for the reader not only to understand the concepts, but also to be able to return to the material efficiently when evaluating patients or reviewing treatment principles.

Hormone therapy can be valuable when used in the right patient, for the right reason, and with the right level of care. It can also be misused when applied too broadly, too aggressively, or without a clear indication.

This book was created to support the first approach and help clinicians avoid the second. If it succeeds, it will not simply teach hormones. It will support safer judgment, clearer communication, and more thoughtful patient care.

How to Use This Book

This book is organized to move from basic understanding to clinical application in a practical sequence. The early chapters introduce the role of hormones in aging and aesthetic medicine, helping the reader understand why endocrine health matters in patients who present with concerns related to appearance, vitality, sexual health, sleep, mood, and body composition. These foundational chapters should be read first, because they establish the framework for everything that follows.

The second part of the book focuses on clinical evaluation before treatment. These chapters are especially important because hormone therapy should never begin with medication choice alone. Proper candidate selection, symptom assessment, medical history, laboratory testing, and risk evaluation are the basis of safe and effective practice.

Readers are encouraged to study these chapters carefully, since errors in hormone therapy often begin at the assessment stage rather than in the treatment stage.

The core section of the book presents each major hormone separately. This structure allows the reader to understand each hormone on its own terms, including its physiology, clinical relevance, common presentations, and treatment considerations. Because these chapters are divided by hormone, they can be read in sequence during the first reading of the book and later used individually as reference chapters when needed in practice.

The treatment-related sections are intentionally designed to be faster and easier to use. Rather than reading like a long academic textbook, they are meant to function as a clinical guide. Quick-reference tables, concise frameworks, and practical summaries are included so that readers can more easily review approaches, monitoring concepts, and key treatment principles. These sections should still be used carefully and critically, but they are structured to support real-world clinical use.

The later chapters focus on broader care, including lifestyle factors, aesthetic integration, safety, ethics, and case-based application. These chapters help place hormone therapy into its proper context. Hormone treatment does not replace good medicine, good lifestyle care, or good aesthetic judgment. It should be understood as one part of a larger treatment model.

To get the most benefit from this book, it is helpful to read it in two ways. The first is as a complete educational text, beginning at the front and moving through each section in order. The second is as a clinical reference, returning to specific chapters, tables, and summaries when reviewing patient cases or treatment decisions. Used in this way, the book can serve both as a learning resource and as a practical companion.

This book is not intended to replace specialist training, legal prescribing authority, or individualized clinical judgment. It is meant to support the reader in building a clearer, safer, and more structured understanding of hormone therapy in aesthetic and anti-aging practice.

Scope, Safety, and Clinical Responsibility

Hormone therapy belongs to medical practice, not to trend-based wellness culture. Although it is often discussed in anti-aging settings, it must always be approached as a clinical intervention with potential benefits, limitations, and risks.

For this reason, the scope of hormone therapy in aesthetic medicine is defined not by patient demand or marketing language, but by professional training, legal authority, scientific evidence, and patient safety.

The first responsibility of the clinician is to recognize that hormones should not be prescribed simply because a patient is tired, aging, or seeking rejuvenation. Many common complaints in aesthetic practice, such as low energy, weight change, poor sleep, low mood, reduced libido, skin changes, or hair thinning, are nonspecific. They may be influenced by hormonal shifts, but they may also reflect lifestyle factors, chronic stress, thyroid disease, nutritional deficiencies, psychiatric conditions, medication effects, metabolic problems, or normal aging. A responsible clinician does not reduce every complaint to hormone imbalance.

The second responsibility is to respect the limits of scope. Some practitioners may be trained and licensed to assess, prescribe, and monitor hormone therapy within their jurisdiction. Others may be better positioned to identify possible hormonal concerns, initiate preliminary evaluation where appropriate, and refer or co-manage with endocrinologists, gynecologists, primary care physicians, or other specialists. Knowing when to treat is important. Knowing when not to treat is equally important.

Safety begins with careful patient selection. Before treatment is considered, the clinician must assess whether the patient has a reasonable indication, whether there are contraindications or caution factors, and whether appropriate monitoring can be provided. Treatment without a clear indication, without baseline assessment, or without follow-up planning is not good medicine. Even when hormone therapy is appropriate, it should be individualized rather than formula-based.

Another major part of clinical responsibility is expectation management. Patients in aesthetic practice may hope that hormone therapy will restore youth, reverse aging, or solve multiple long-standing concerns at once. These expectations must be handled honestly. Hormone therapy may improve certain symptoms and may positively influence some aspects of appearance and well-being in selected patients, but it is not a universal anti-aging solution. Ethical practice requires clear communication about what treatment may help, what it may not help, and what risks or trade-offs may be involved.

Monitoring is also part of safe care. Hormone treatment is not static. Patients change, symptoms evolve, risks shift, and responses vary. Follow-up, reassessment, and dose adjustment are part of responsible practice.

A clinician who starts treatment must also be prepared to monitor response, identify adverse effects, and pause, modify, or stop treatment when necessary.

This book is written with these principles in mind. It approaches hormone therapy as a field that requires judgment, precision, humility, and respect for evidence. Wherever treatment is discussed, it should be understood within that framework. The goal is not simply to know what can be prescribed, but to understand when treatment is justified, when it is not, and how to practice in a way that protects the patient.

Key Abbreviations and Laboratory Terms

Because hormone therapy involves repeated use of clinical shorthand, laboratory language, and endocrine terminology, it is useful to define key terms at the beginning of the book. The following abbreviations and laboratory concepts appear frequently in hormone-related discussions and will help the reader navigate the chapters that follow.

ACTH refers to adrenocorticotropic hormone, a pituitary hormone involved in stimulating cortisol production.

CBC stands for complete blood count. It is commonly used to assess parameters such as hemoglobin, hematocrit, white blood cells, and platelets.

CMP refers to comprehensive metabolic panel, which includes markers related to liver function, kidney function, electrolytes, and glucose.

DHEA stands for dehydroepiandrosterone, an adrenal hormone that serves as a precursor to other sex hormones.

DHEA-S refers to dehydroepiandrosterone sulfate, a circulating storage form of DHEA often measured in laboratory testing.

E2 is estradiol, a major estrogen and one of the most clinically relevant female sex hormones.

FSH stands for follicle-stimulating hormone, a pituitary hormone involved in reproductive function and often considered in the evaluation of menopausal status.

FT3 refers to free triiodothyronine, the unbound form of T3.

FT4 refers to free thyroxine, the unbound form of T4.

GH means growth hormone, a pituitary hormone involved in growth, tissue repair, and metabolic regulation.

HbA1c refers to hemoglobin A1c, a marker used to estimate average blood sugar levels over time.

HPA axis means hypothalamic-pituitary-adrenal axis, the regulatory system involved in stress signaling and cortisol balance.

HPG axis means hypothalamic-pituitary-gonadal axis, the system that regulates reproductive hormones.

Key Abbreviations and Laboratory Terms

IGF-1 stands for insulin-like growth factor 1, a hormone associated with growth hormone activity and tissue growth signals.

LH refers to luteinizing hormone, a pituitary hormone involved in gonadal function.

MHT means menopausal hormone therapy.

PRL refers to prolactin, a pituitary hormone that can influence reproductive and sexual function when abnormal.

PSA stands for prostate-specific antigen, a marker sometimes used in male hormone evaluation and monitoring.

SHBG refers to sex hormone-binding globulin, a binding protein that affects the proportion of circulating hormones that are free and active.

T3 means triiodothyronine, an active thyroid hormone.

T4 means thyroxine, the major hormone produced by the thyroid gland.

TSH stands for thyroid-stimulating hormone, one of the most important screening markers in thyroid assessment.

Total testosterone refers to the overall amount of testosterone measured in circulation, including both bound and unbound hormone.

Free testosterone refers to the portion of testosterone not tightly bound to proteins and therefore more biologically available.

Reference range means the expected laboratory range for a given test in a defined population.

Baseline laboratory testing refers to tests performed before treatment begins, providing a starting point for future comparison.

Key Abbreviations and Laboratory Terms

Monitoring labs refers to repeated tests used after treatment begins in order to assess response and safety.

Contraindication means a condition or factor that makes a treatment inappropriate or unsafe.

Relative contraindication means a factor that does not absolutely prevent treatment but requires increased caution and individualized judgment.

Titration refers to the gradual adjustment of dose based on response and tolerability.

Physiologic replacement refers to treatment aimed at restoring hormone levels toward a normal biologic range rather than exceeding it.

Supraphysiologic dosing refers to doses above normal physiologic levels, which may increase risk and generally require strong justification, if they are used at all.

These terms provide a common language for the rest of the book. Understanding them early makes the later chapters easier to follow and helps the reader interpret treatment discussions more confidently.

Part I. Foundations

Before exploring individual hormones, treatment options, and clinical protocols, it is essential to build a strong foundation. Hormone therapy cannot be understood properly if it is approached only as a list of medications or laboratory values. In aesthetic and anti-aging medicine, hormones sit at the intersection of physiology, aging, appearance, and patient expectations. Because of this, the clinician must first understand the broader context in which hormone-related care exists.

This section introduces the core concepts that shape the rest of the book. It explains why hormones matter in aging, how endocrine changes can influence visible and functional aspects of health, and why hormone therapy should be viewed as a medical intervention rather than a cosmetic trend. It also helps clarify an important principle: not every age-related complaint is hormonal, and not every patient seeking anti-aging care is a candidate for hormone treatment. The chapters in this part are designed to create the clinical mindset needed for the rest of the book. They establish the difference between hormone therapy and general wellness care, explain how hormonal shifts may affect skin, hair, energy, mood, body composition, and sexual health, and place hormone therapy alongside other anti-aging strategies in a realistic and balanced way.

In practical terms, Part I prepares the reader to think correctly before moving into assessment and treatment. It sets the tone for the book by emphasizing judgment, clarity, and clinical responsibility. Without this foundation, hormone therapy can easily be misunderstood, oversimplified, or misused. With it, the reader is better prepared to approach the following chapters with a safer and more structured perspective.

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HORMONE THERAPY AND AGING IN AESTHETIC PRACTICE