

## Anestico: Advancing Personalized Perioperative Medicine

### Introduction

Every year, millions of surgeries are performed using standardized anesthesia and perioperative care protocols. Yet, patients respond differently—some recover quickly, while others experience complications, prolonged healing, and cognitive dysfunction. The difference? Personalized medicine.

At Anestico, we are pioneering a data-driven approach to anesthesia care that integrates pharmacogenetics, perioperative nutrition, wearable technology, and longevity science to optimize patient outcomes. This whitepaper explores the science, methodology, and impact of our approach to revolutionizing perioperative medicine.

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### The Problem: Gaps in Traditional Perioperative Care

Despite advances in modern medicine, key challenges remain:

- ✓ **Variability in Anesthesia Response** – Every patient metabolizes anesthesia differently. Standardized protocols fail to account for genetic variations, leading to unpredictable responses, increased complications, and prolonged recovery times.
  - ✓ **Suboptimal Preoperative Preparation** – Many patients enter surgery in a weakened, catabolic state due to prolonged fasting and inadequate nutrition. This impairs healing, weakens immune function, and raises the risk of post-surgical complications.
  - ✓ **Postoperative Cognitive Dysfunction (POCD) & Recovery Delays** – Surgery isn't just about the procedure—it's about the recovery. Traditional protocols overlook metabolic and neurological factors, leading to delayed healing, fatigue, and cognitive fog.
  - ✓ **Lack of Personalized Data Utilization** – Wearable technology and real-time biometrics have transformed other areas of healthcare, yet they remain underutilized in perioperative medicine. This gap leads to suboptimal decision-making and missed opportunities for personalized recovery plans.
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### Anestico's Solution: Personalized Perioperative Medicine

#### Precision Anesthesia: Leveraging Pharmacogenetics for Safer Surgeries

Every patient metabolizes anesthesia medications differently. Our pharmacogenetic testing helps:

- ✓ Predict individual drug responses to optimize anesthesia protocols.
- ✓ Reduce risks of over-sedation, delayed emergence, and post-op complications.
- ✓ Enhance anesthesia precision and patient safety through data-driven decision-making.

## **Surgical Fueling: Optimized Nutrition for Faster Recovery**

Nutritional status is a critical yet often overlooked determinant of surgical success. Anestico's perioperative supplement line is designed to:

- ✓ Preoperative Phase – Optimize metabolism, immune function, and hydration with tailored pre-op carbohydrate loading and micronutrient support.
- ✓ Intraoperative Phase – Maintain stability through strategic electrolyte and fluid balance.
- ✓ Postoperative Phase – Accelerate healing and reduce inflammation through collagen peptides, omega-3s, curcumin, and mitochondrial support compounds.

## **Smart Surgery: Integrating Wearables & Real-Time Data for Better Outcomes**

We integrate real-time biometric data tracking through:

- ✓ Continuous Glucose Monitoring (CGM) to assess metabolic stability and fasting response.
- ✓ Heart Rate Variability (HRV) & Sleep Tracking to monitor autonomic function and post-op resilience.
- ✓ Data-Driven Recovery Plans tailored to patient-specific needs for optimal healing and pain management.

## **Surgical Resilience & Longevity Science**

At Anestico, we integrate cutting-edge advancements from longevity science to enhance surgical resilience and recovery. Our approach includes:

- ✓ Metabolic Optimization – Preoperative strategies to enhance cellular energy production and optimize metabolic efficiency for better surgical outcomes.
- ✓ Cellular Health & Tissue Repair – Targeted interventions to reduce inflammation, enhance healing, and support immune function throughout the perioperative period.
- ✓ Hormetic Stress & Adaptive Recovery – Leveraging scientifically supported methods such as strategic fasting, temperature modulation, and mitochondrial support to strengthen the body's ability to heal and recover efficiently.

This holistic approach ensures that patients enter surgery in an optimized physiological state, recover faster, and experience fewer complications.

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## **Clinical Impact: How Anestico Improves Outcomes**

By combining these cutting-edge strategies, Anestico is setting a new standard in perioperative medicine. But what does this mean for real-world surgical outcomes? Here's how our approach translates into measurable patient benefits:

- ✓ Reduced surgical complications and anesthesia-related adverse events.
- ✓ Shortened recovery times and minimized post-op inflammation.
- ✓ Enhanced cognitive recovery and reduced risk of POCD.
- ✓ Improved long-term health through better metabolic and immune function.

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## **The Future of Perioperative Medicine**

At Anestico, we believe that the future of anesthesia is personalized. No longer should patients be treated with generic protocols that fail to account for individual differences. By integrating genetics, biometrics, and advanced nutritional strategies, we are leading the next revolution in perioperative medicine—one where surgical outcomes are predictable, recoveries are optimized, and patient care is truly personalized.


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## **Join the Future of Perioperative Medicine**

We're actively seeking forward-thinking physicians, hospitals, and research partners to pioneer the next generation of perioperative care. If you're ready to transform perioperative outcomes with personalized medicine, let's connect.

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