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Overview of Minimally Invasive Therapy

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The definition of a minimally invasive procedure has been debated in medicine since the term was first coined in an editorial in the *British Journal of Surgery* in 1990 [1]. Initial descriptions of small incision surgeries were usually based on the method or instrument that was used to visualize the surgical site. Examples of this would be a microsurgical procedure where the surgical site was visualized using a surgical microscope or a laparoscopic procedure where the abdominal procedure was visualized using a laparoscopic endoscope. Because the technology being used for small incision surgery continued to evolve rapidly and often the instrumentation for visualization of a particular procedure changed over time, the term “minimally invasive surgery” was suggested. This is a more global term that need not be changed as the technology evolves. Over time, a definition was accepted which states that minimally invasive surgery is a surgical technique that uses smaller incisions to perform a surgical procedure that previously required larger incisions and achieves equal or superior results compared with the traditional surgical approach [2]. This definition separates the description of the surgical procedure from the technology used for visualizing the surgery. This broad-based definition is currently accepted in most medical fields.

A significant portion of this text will explore periodontal therapeutic approaches that are markedly different from traditional techniques. Some of these techniques clearly fit the medical definition of minimally invasive surgery. These include the

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surgical approaches where very small incisions using a videoscope are used to treat periodontal bone loss or to treat soft tissue deficiencies. Some of the techniques described do not fit the usually accepted definition of minimally invasive surgery. An example is closed gingival scaling and root planing using a dental endoscope. However, the editors feel that this procedure clearly belongs in the broader area of minimally invasive therapy.

The scientific documentation on minimally invasive techniques is approaching a critical mass. The number of papers that document very favorable results from minimally invasive surgical and nonsurgical periodontal procedures is increasing and have been generated from multiple sources. This is a critical factor for minimally invasive therapies to become a mainstream and, eventually, the dominant therapeutic approach. At the same time, the devices for performing MIS are becoming more widely available. This combination of positive scientific evidence and advances in technology will allow rapid advancement in the field.

This book briefly describes some of the early applications of this philosophy, how the technologies for performing minimally invasive procedures have evolved, and how the current techniques have reached their present form. The book also covers in detail the state of the art in minimally invasive periodontal therapy. This includes a description of the techniques, a discussion of the currently used technology, as well as clinical case studies. Chapter 10 explores possible futures for the treatment of periodontal disease that may take us far beyond our current concepts of what is “minimal” in our treatment approaches.

References

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