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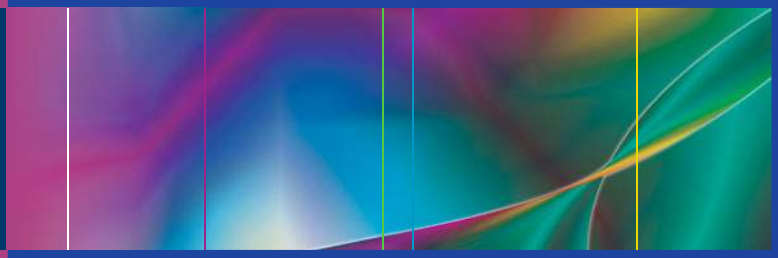

The SAGES Manual of Groin Pain

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Foreword

Inguinal hernia repair is one of the most common operations done by general surgeons in practice today. In the early 1990s, the surgical approach to inguinal hernias underwent a major transformation from primary sutured tissue repairs to the widespread use of tension-free mesh repairs using both open and laparoscopic techniques. The primary reason for this shift was twofold: (1) there was an unacceptably high recurrence rate with primary tissue repairs, and (2) the tension-free approach allowed an earlier return to full and unrestricted activity. However, this move toward mesh-based repairs has come with a price—that is, a higher rate of chronic or lingering groin pain post-herniorrhaphy.

The SAGES Manual of Groin Pain provides a comprehensive look at all aspects of groin pain that might be encountered by a surgeon in practice. The book is organized into sections according to primary or secondary groin pain with chapters on definitions, the various etiologies, and the approach to diagnosis and management across the spectrum of disorders. It is important to note that not all groin pain is due to a hernia or occurs post-hernia repair. Of particular interest to the reader in this regard will be the section on athletic pubalgia or the so-called "sports hernia," which has gained increasing attention in the sports and general surgery community in recent years and which continues to confound clinicians who are asked to see these individuals.

The book also takes on several contemporary areas of debate in the prevention of groin pain post-hernia repair, including the role of biologic mesh, technical tips and tricks to minimize postoperative pain, and the role of prophylactic neurectomy. It concludes with a unique section of case reports that cover the gamut of difficult groin pain scenarios likely to be encountered as well as patient perspectives on these topics.

Like *The SAGES Manual of Hernia Repair* that preceded it, *The SAGES Manual of Groin Pain* fills an important need in contemporary

hernia practice that will be a valued reference for any surgeon who manages these patients. Drs. Jacob, Chen, Ramshaw, and Towfigh are to be commended for bringing this work together into one compendium that should become a mainstay of any hernia surgeon's library.

St. Louis, MO, USA L. Michael Brunt, MD

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Part I
Primary Groin Pain

1. Introduction to Primary and Secondary Groin Pain: What Is Inguinodynia?

Brian P. Jacob, David C. Chen, Bruce Ramshaw, and Shirin Towfigh

If dedicated inguinodynologists already existed and were easily accessed by patients with groin pain, we would have much less of a need for this type of manual. However, as of today, inguinodynology is not yet a specialty, nor do specific inguinodynologists readily exist. In fact, patients with groin pain and chronic groin pain either primarily existing or secondarily existing following a hip or hernia surgical procedure are often lost, mainly because they have no place or physician to turn to with this chief complaint. The Internet is filled with an equal number of myths and facts and is often not helpful with finding patients a specialist. With such an extensive differential diagnosis, the optimal treating physician may be a pain specialist, a physical therapist, a psychologist, a radiologist, a gastroenterologist, a general surgeon, an orthopedic surgeon, a urologist, a neurosurgeon, a neurologist, a rehabilitation specialist, a chiropractor, an acupuncturist, a gynecologist, or even a plastic surgeon. The differential diagnosis for groin pain crosses into 15 different specialties, so no wonder patients are lost.

Inguinodynia is the technical term for *groin pain*, and chronic groin pain is a complex topic. In an attempt to organize this complex disease entity, we set out to gather chapters that covered the entire differential diagnosis of a patient with groin pain. In doing so, we quickly realized that patients could be divided into two broad categories: *primary groin pain*, or groin pain not related to a prior surgery (this would include pain after sports, a sprain, or overuse during work), and *secondary groin pain*, or groin pain that began after a surgical procedure (including hernia repairs and orthopedic surgeries). Our chapters are thus divided up

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as such. That being said, complex systems science tells us that there will not be a single pathway to work up and cure each groin pain patient, and that each patient should expect an individualized outcome.

If a reader takes away only one message from this entire manual, it is that the single most important initial steps in helping a patient with groin pain, even if they also present with a hernia bulge, is to *take a full and detailed pain history* that focuses on that pain complaint and includes information on the patient's back, hip, groin, pubis, and legs. Never assume that the pain is from the hernia alone. A full and detailed groin pain exam should then follow, which would include documenting any obvious hernias.

Document, document, and document some more. The specific history and exam will often help dictate which approach is optimal for each patient. For primary groin pain, starting your approach with the patient's *back*—evidence for entities that cause groin pain like sacroiliac joint dysfunction, thoracolumbar syndrome, and degenerative disc disease—should be sought. The *hip* pathologies causing groin pain should then be discussed, and include intra- and extra-articular diseases, with femoral acetabular impingement (FAI) and acetabular labral tears being among the more common intra-articular etiologies causing groin pain. Extra-articular hip causes are extensive and include iliopsoas bursitis, trochanteric bursitis, snapping hip syndrome, pelvic stress fractures, obturator nerve (and other nerve) entrapment syndromes, and lumbar radiculopathies. The *pubic bone* itself can be to blame with either osteitis pubis or pubic rami stress fractures. In addition, each *muscle and tendon* that inserts on the pubis can have a tendonopathy, tendonitis, a sprain, or an avulsion injury. Finally, the muscles and tendons of the buttock and leg that insert on the pubic bone can also be sprained or torn, causing groin pain. An adductor sprain is the most common etiology of the leg tendons to blame. The concept of a sports hernia, now accepted as a misnomer, is really just a weak transversalis fascia bulging through a widened internal ring, and is a diagnosis of exclusion when all other disruption injuries have been excluded by exam and MRI.

Nerve compression or entrapments may be to blame and should be considered in the differential. These nerves, which can be compressed or entrapped, include the T12 nerve, the iliohypogastric, the ilioinguinal, the genitofemoral, the lateral femoral cutaneous, the pudendal, and the obturator nerves. *True inguinal hernias* and difficult-to-palpate "occult" hernias are included in the broad differential. To add complexity, there is an additional long list of *GI, GU, and GYN* etiologies for groin pain should the history and exam suggest these. Some etiologies in this list