



The knee is the joint in which arthroscopy has its greatest diagnostic and intraarticular surgical application. Arthroscopic techniques have permitted documentation of the usefulness of the techniques in diagnosis and treatment of intraarticular pathology. Arthroscopy has allowed evaluation of the accuracy of clinical examination, laboratory tests, magnetic resonance imaging (MRI), and other diagnostic tools in knee problems. Arthroscopy should be considered a diagnostic aid used in conjunction with a good history, complete physical examination, and appropriate roentgenograms. It should serve as an adjunct to, not as a replacement for a thorough clinical evaluation(*Warren 1985*).

The meniscus cartilage of the knee was once thought to be a functionless vestigial remnant of a leg muscle. However, as our knowledge about the meniscus has increased over the past 50 years, it is now realized that the meniscus is an integral part of the complex biomechanics of the knee(*Rodkey 2000*).

Injuries to the menisci have a tremendous physical and financial impact on a large segment of the population and on medical economics. It also now recognized that loss of part or all of one or both menisci frequently lead to late degenerative changes associated with osteoarthritis. The deterioration of the joint then leads to multiple surgeries and various degree of disability often leading directly to total knee joint replacement(*Rodkey 2000*).



Meniscectomy has led to osteoarthritis changes in the knee leading most surgeon and researchers to develop techniques of meniscal repair. This has evolved into different arthroscopically assisted meniscal repair techniques(*Wolf and Rodeo 2004* ).

Meniscal repair is not a new concept; the first known repair was performed more than a century ago by Sir Thomas Annandale in Edinburgh, Scotland in 1863. Despite this report, this procedure attracted little or no attention, and clinical management was directed toward excision since the meniscus was believed to be of little importance to knee function and to be incapable of healing. Classic laboratory research by King in the 1930's documented that meniscal lesions that communicate with the peripheral blood supply do indeed heal, but this report also went virtually unnoticed, possibly because of the general acceptance at that time of total meniscectomy for the treatment of meniscal tears(*King 1990*).

Despite Fairbank's warning in 1948, that degenerative change can follow meniscectomy, it was not until several studies in the 1960's and 1970's more completely documented the disappointing long-term results following meniscectomy that this approach began to be seriously questioned. During the same period, several laboratory studies helped to clarify the functional importance of menisci in force transmission, stability, and shock absorption. These factors have collectively led to the emergence of more conservative clinical approach to the management in meniscal tear over the past two decades. Appropriate treatment now include the leaving of certain tears alone, partial meniscectomy, and meniscal repair in selected patients(*DeHaven and Arnoczky 1994*).



In February 1976, the first reported arthroscopic outside in repair was reported by Hiroshi Ikeuchi who had performed this procedure at the university hospital of Zurich(*Jones, Smith et al. 1978*). Then, Henning was the first to use the inside-out technique in 1980(*Cannon and Morgan 1994*).

Regardless of the arthroscopic technique preferred by the surgeon, arthroscopic meniscal repair consist of three important steps: (1) Appropriate patient selection, the patient should have a documented meniscal tear that is able to heal, most often a single vertical longitudinal tear in the outer one third, (2) Tear debridement and local synovial, meniscal and capsular abrasion to stimulate a proliferative fibroblastic healing response, and (3) Suture placement to reduce and stabilize the meniscus(*Phillips 2008*).

In 1980s, Arnaczký and Warren defined the limits of meniscal vascularity as a preliminary step to understand and practice meniscal repair. Their results, along with the orthopaedics community's growing experience in arthroscopic techniques of meniscal repair, have led to the present concept of preserving as much meniscal tissue as possible. Excellent results have been obtained in the repair of peripheral vertical tears in the red-red zone(*Phillips 2008*).