

BRYAN SURGERY



Dr. Sanjay Vhora

M.S. (Surg.) M. Ch. (Neurosurgery)

**Director of Neurosurgery &
Trauma Unit (Ruby Hall Clinic)**

**Hon. Ass. Prof. B. J. Medical
College & Sassoon Gen. Hospital**

Cell : 98220 - 55908

BRYAN DISC FOR CERVICAL SPINE (ARTIFICIAL DISC)

- **1st advanced Spinal Surgery in Western & Eastern India**
- **Only 3rd center & 3rd Neurosurgeon in the Country to perform Bryan Disc surgery.**

Introduction

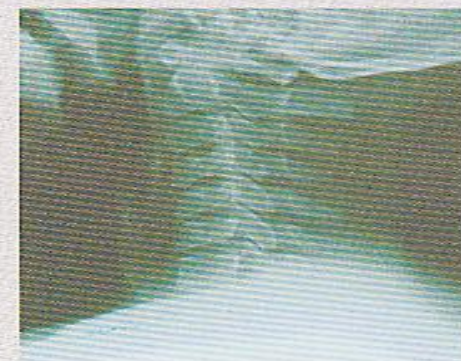
During the past thirty years, technical advances in the design of large joint reconstructive devices have revolutionized the treatment of degenerative joint disease, moving the standard of care from arthrodesis to arthroplasty. In spite of this, the only treatment modality currently available to treat degenerative cervical disc disease remain discectomy or discectomy followed by fusion. While ACD or ACDF successfully treat the patient's short-term symptoms, strong clinical evidence supports the conclusion that accelerated degeneration of adjacent disc level is a frequent consequence of the increased motion that results from fusion. Thus the primary design objective of the bryan cervical disc system is the reconstruction of a degenerated intervertebral disc with a functional disc prosthesis that can provide normal motion and thus protection of adjacent disc.



Bryan disc prosthesis

Indications

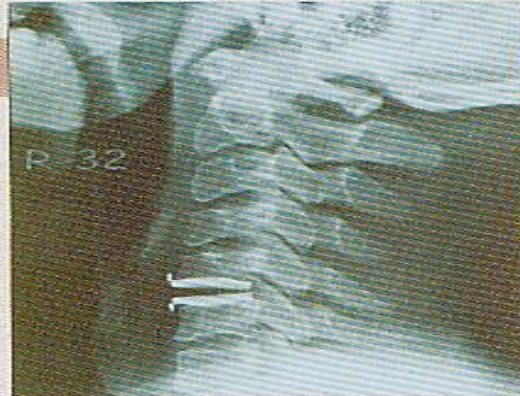
The device is indicated for use in skeletally mature patients (at least 21 years old) undergoing primary surgery for treatment of mechanically stable, degenerative disc disease of the cervical spine at one level or two adjacent levels between C3-4 and C6-7, as demonstrated by signs and / or symptoms of radiculopathy and/or myelopathy associated with spondylotic foraminal or canal stenosis and / or disc herniations.



Pre-operative x-ray showing
C-5-6 reduced disc space

Contraindications

The device should not be implanted in patients with an active infection, osteoporosis, radiographic evidence of mechanical instability or the absence of demonstrated motion at the treatment level on preoperative flexion/extension radiographs.



Post operative x-ray showing Bryan disc in place (lateral view)

Bryan Disc Prosthesis

The Bryan disc features a shock absorbing elastomer that is intended to cushion the vertebrae and allow motion of the head and neck and is designed to replace the disc that is removed from the patient in cervical spine surgery. It is held in place by its own shape and required no screws to hold it and is totally compatible with MRIs. The prosthesis design is based on a proprietary low-friction, wear resistant, elastic nucleus. The nucleus is located between, and articulates with two shaped titanium plates (shells) that are affixed to the vertebral body endplates and provide for normal range of motion in flexion/extension, lateral bending, axial rotation & translation.

What is daunting is the cost of the implant. But one pays for technology. A decade ago, a knee replacement was not reachable to a common man but now is a regular surgery. Medicine is practiced to alleviate pain and suffering and if technology can help us, we should make full use of it.

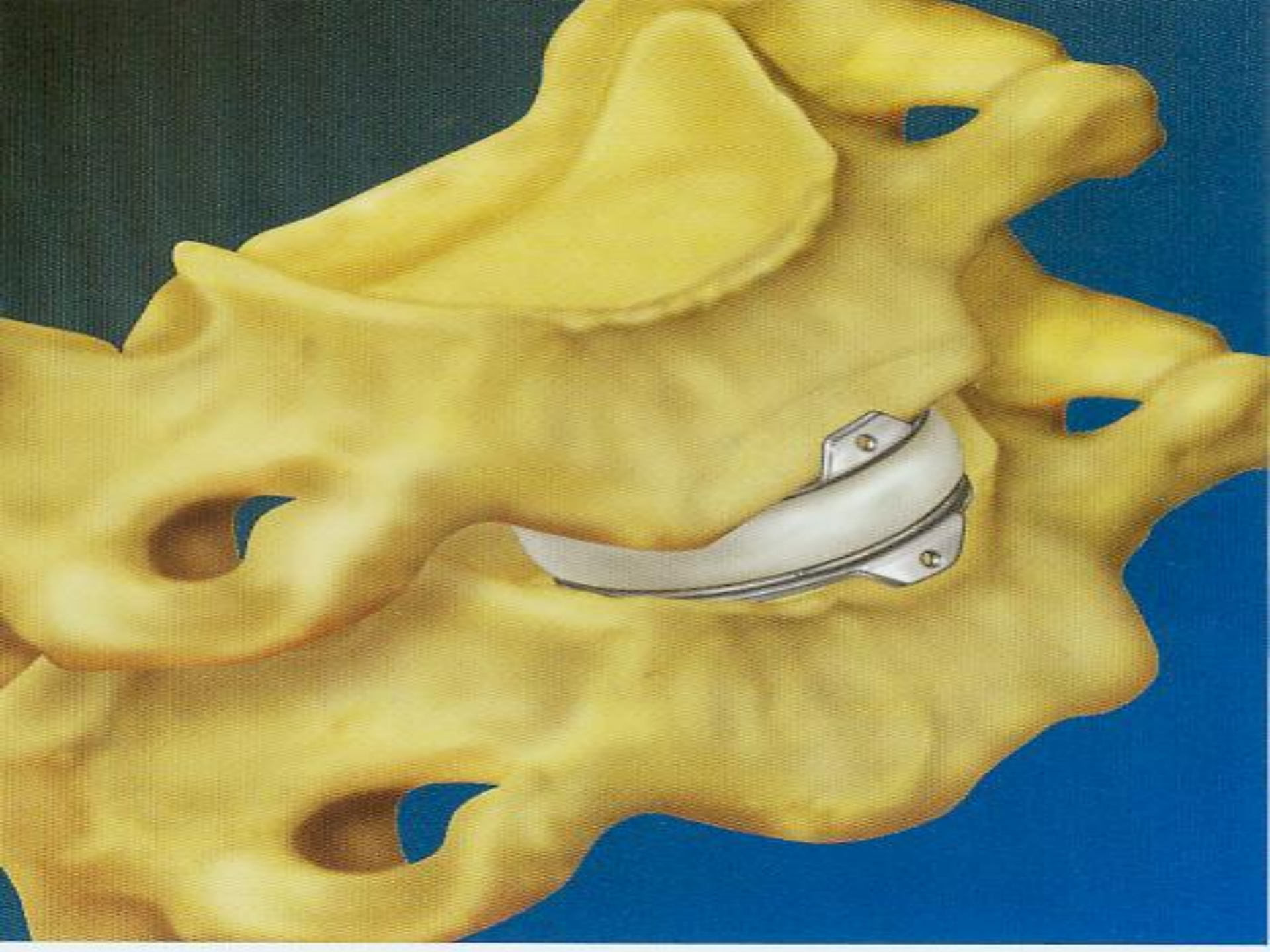
Summary

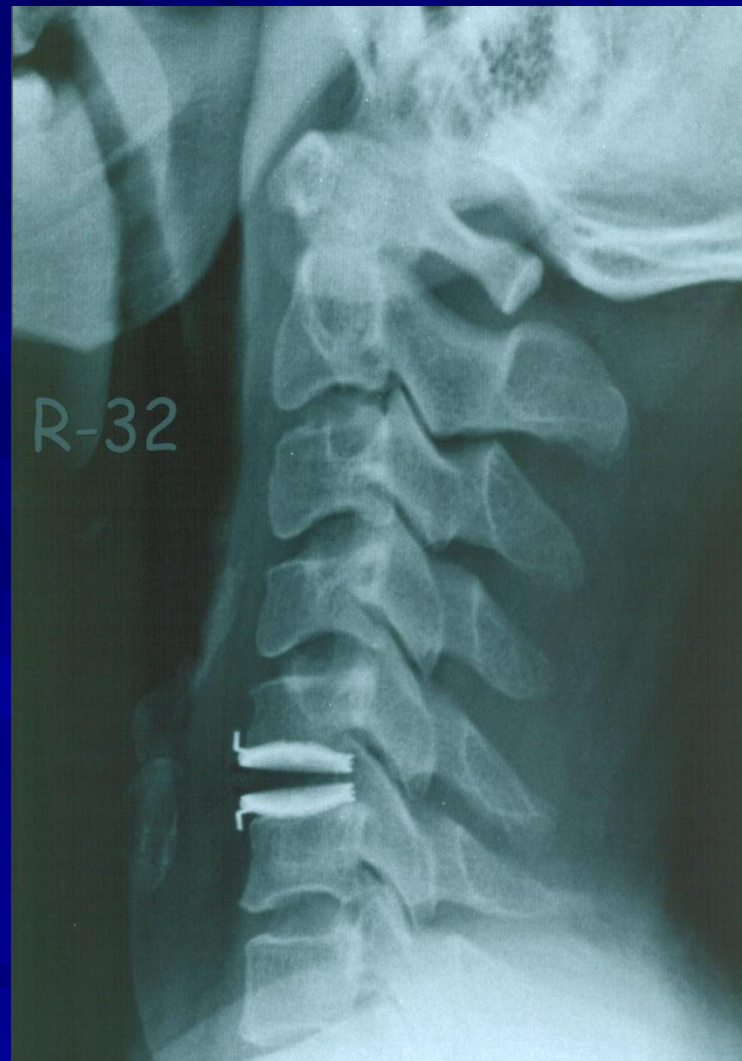
The Bryan Cervical Disc prosthesis provides a significant advance in the ability of Physicians to treat degenerative disc disease in a more physiologic manner. This operative procedure and prosthesis system can successfully address the patient's radicular and/or myelopathic symptoms in the short term. By providing motion, the prosthesis can decrease excessive stress at adjacent levels, thus protecting against accelerated disc degeneration over time. Because of the immediate mechanical stability of the prosthesis, routine activities can be resumed in the early postoperative period without the use of a cervical collar.

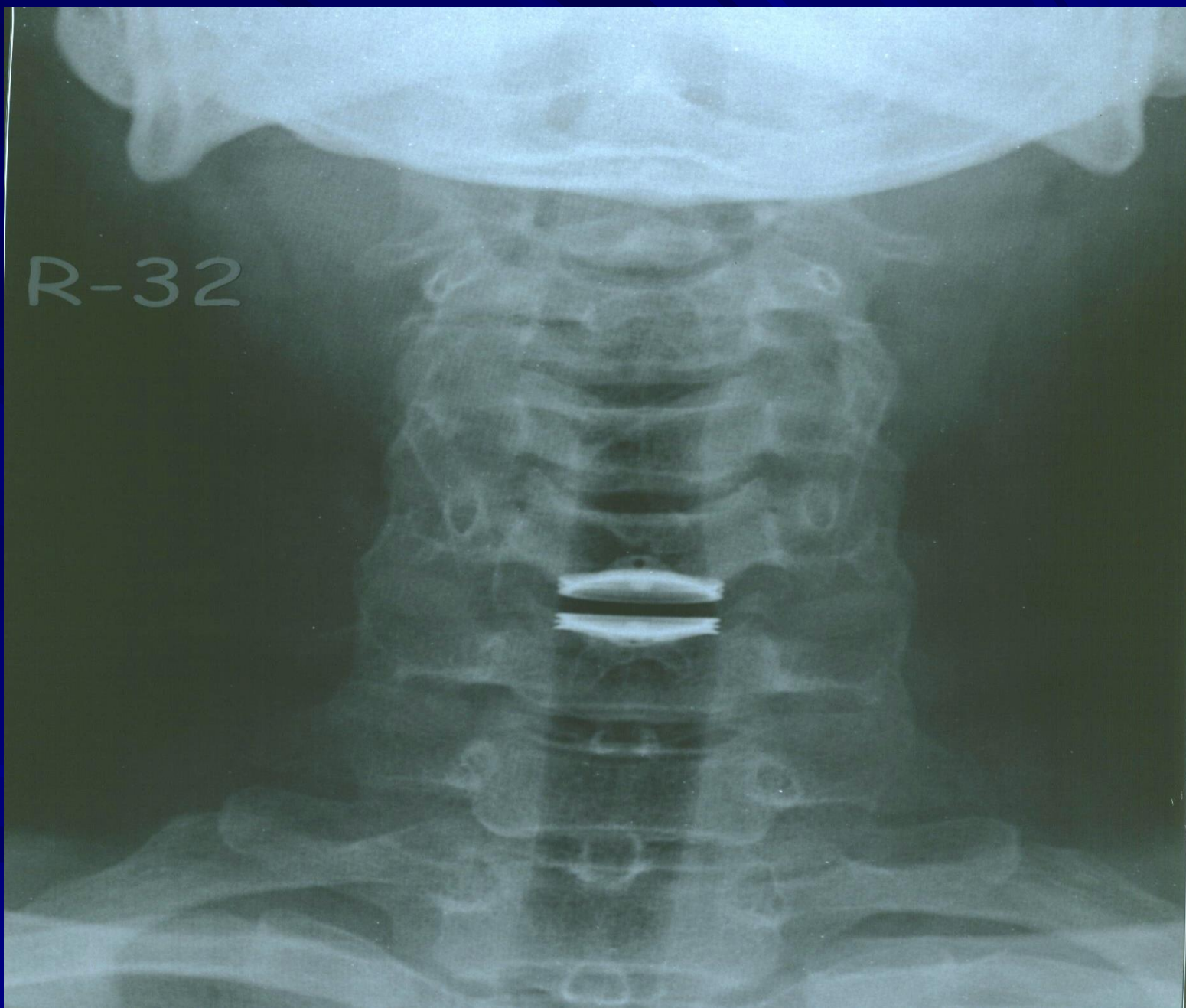


X-ray a.p. View showing Bryan disc in place









R-32

Fusion Loop Final



Bryan Disc



