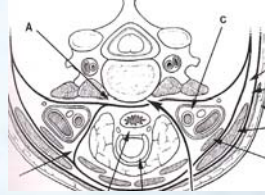


## Use of morselized autograft for fusion after anterior cervical decompression: a retrospective study

David Chin-Sing Wang MD, PhD (PGY-3)  
 Michael A. Jensen, MS, CMI  
 Basheer Shakir, MD (PGY-2)  
 Karen Shellito, PA  
 Haroon F. Choudhri, MD

## Anterior approach to the cervical spine was developed and used in the 1950s

(Bailey and Bagdley, 1960; Robertson and Smith, 1955; Cloward, 1956)

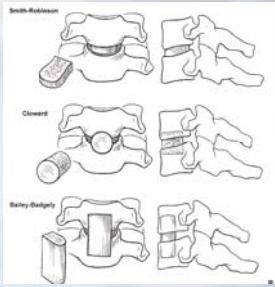


Utilizing fascial planes of the neck, exposure of the anterior cervical spine could be performed with a cosmetically pleasing incision along a naturally occurring skin crease with incision of only the platysma.

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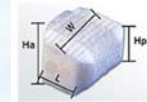
## Following decompression, grafting is employed to prevent post-operative kyphosis, foraminal stenosis, and cervical instability

Interbody grafting come in a variety of shapes and materials, each of which have its own advantages and disadvantages. Autograft is felt to be the gold standard, but donor site complications is the major deterrent.



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## Several graft materials have been used to fill the cervical spine interface



Alternatives to autograft include cadaveric bone or synthetic materials including titanium, carbon fiber, polymethylmethacrylate (PMMA), polyethyleneetherketone (PEEK), and others. These materials are devoid of endogenous osteoinductive factors. Recombinant BMP have been used in conjunction with synthetic materials, however, BMP is expensive and associated with local edema and swallowing difficulties.

## We use autograft harvested during compression packed within PEEK cage

Animation of harvesting anterior lip of cervical vertebral body

## Demographics

- 78 patients from 2007 to 2009 (54% male, 46% female)
- 16 out of 78 (20%) were smokers before and after surgery
- 7 out of 78 (9%) were insulin dependent diabetics
- 32 out of 78 (41%) involved 3 or more levels of decompression

### Outcomes

- Patients were followed a minimum of 6 weeks after surgical intervention
- 64 out of 78 (82%) report improvement after intervention by 6 weeks
- 6 patients (7.5%) report difficulty swallowing during 2 week follow up which resolved by 6 weeks
- No post operative infections were note during this time

### Conclusion

- 1) Interbody grafting after anterior cervical decompression is key to preventing kyphotic deformity, instability, and foraminal stenosis
- 2) Many options exist for graft material. Use of morselized autograft harvested during decompression provides autologous bone with osteoinductive factors *without the pain of donor site harvest nor the expense and risk of recombinant BMP*