



January/February 1986

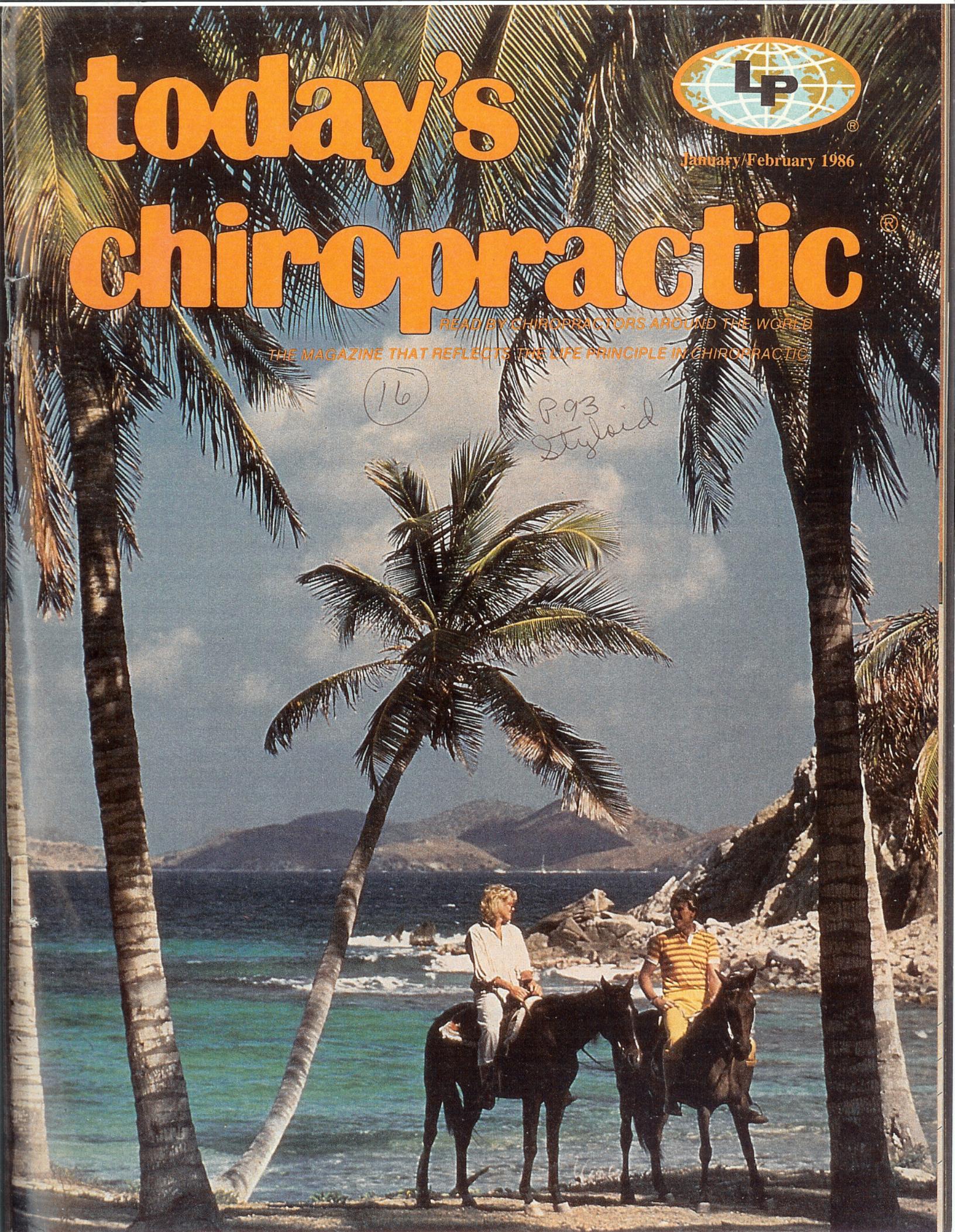
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THE MAGAZINE THAT REFLECTS THE LIFE PRINCIPLE IN CHIROPRACTIC

(16)

P.93
Styloid



Styloid Process And Atlas Transverse Process Relationship

By Roy W. Sweat, D.C.



The temporal bones take part in the formation of the sides and base of the skull. Each consists of four parts which are morphologically distinct elements that have become fused with one another. The styloid process is one of the four basic parts of the temporal bone.

The styloid process is developed from the cranial end of the cartilage of the second visceral or hyoid arch by two centers: one for the proximal part of the process, termed the tympanohyal, appears before birth; the other, for the distal part of the process, termed the stylohyal, does not appear until after birth.

The styloid process is a slender, pointed bone averaging about 2.5 cm in length. It projects anterior and inferior from the under surface of the temporal bone. Its proximal part (the tympanohyal) is surrounded by a bony sheath, derived from the tympanic plate and best marked on its anterolateral aspect, while its distal part (the stylohyal) gives attachment to certain muscles and ligaments.

The stylohyoid ligament is a fibrous cord, attached to the tip of the styloid process and the lesser cornu of the hyoid bone. This ligament is derived from the cartilage of the second visceral arch and may be partially ossified; in many mammals it forms a distinct bone, the epihyal (Figure 1).

The Doctors of Chiropractic should study and examine the relationship of the styloid process on the x-rays and be aware of any aberrancy before beginning care of the patient.

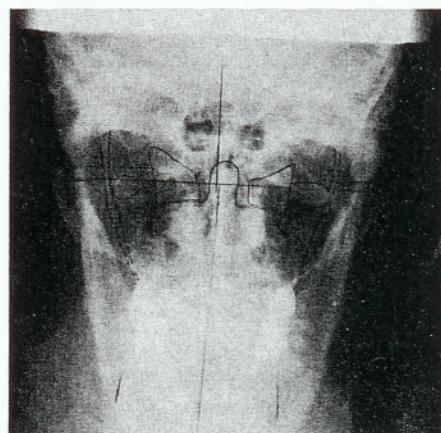


Fig. 1

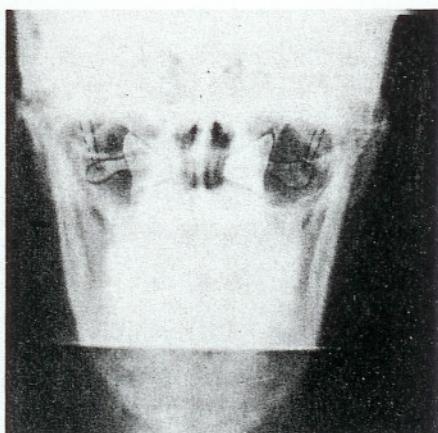


Fig. 2

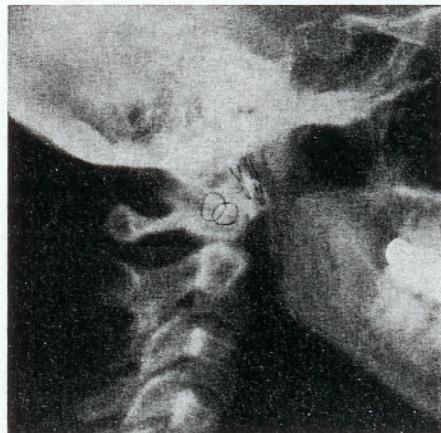


Fig. 3

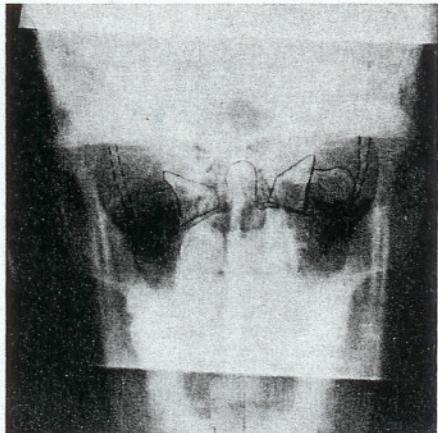


Fig. 4

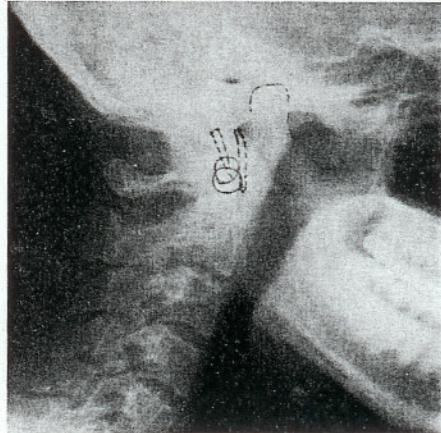


Fig. 5

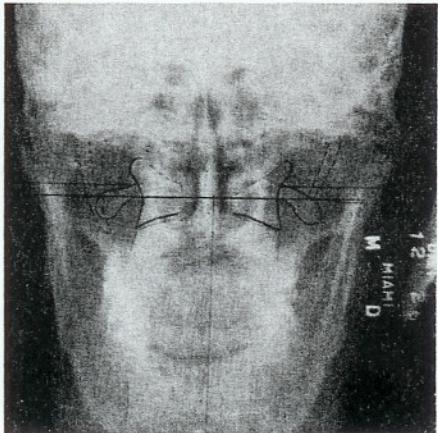


Fig. 6

Unilateral and Bilateral Aberrancies

In normal anatomical formation, the styloid process is anterior and medial to the atlas transverse process (*Figures 2 and 3*). In aberrant formations the styloid process can be lateral and posterior and can superimpose or articulate with the atlas transverse process (*Figures 4 and 5*).

When the styloid is aberrant unilaterally on the side of atlas laterality, adjusting forces must be minimal or light. The adjusting force may be transmitted through the styloid to the atlas transverse process for movement of the atlas (*Figure 6*). This aberrancy can make it difficult or impossible to move the atlas.

When the styloid aberrancy is on the opposite side of the atlas laterality, it can make moving the atlas laterality difficult or impossible. When the aberrancy is bilateral and the styloid processes superimpose or articulate with the atlas transverse processes on each side, it can make movement of the atlas impossible (*Figure 7*).

Conclusion

The Doctor of Chiropractic should study and examine the relationship of the styloid process with the atlas transverse process on the x-rays and be aware of any aberrancy before beginning care of the patient.

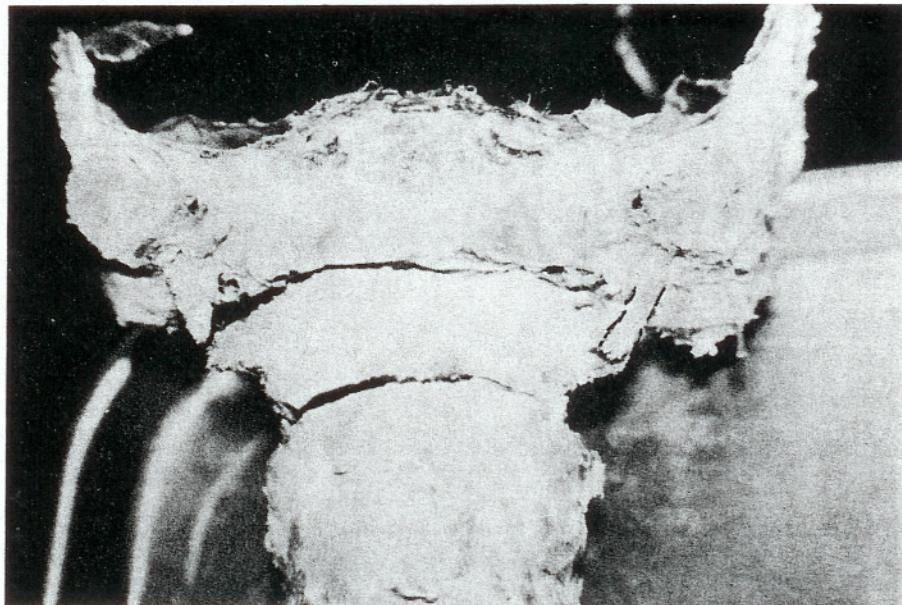


Fig. 7

The doctor's atlas adjusting program may be highly efficient, but due to aberrancies of the styloid process and the atlas transverse process, subluxation reductions and results may be less than desired. ■

About the author: Roy W. Sweat, D.C., a regular contributor to Today's Chiropractic, is a Palmer College graduate. An assistant professor at Life Chiropractic College, Dr. Sweat has designed a chiropractic adjusting

instrument and a series of attachments for x-ray machines and the orthogonal adjusting tables.

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