



## Physical Anthropology Section – 2003

### H14 A Strategy for Age Determination Combining a Dental Method (Lamendin) and an Anthropological Method (Iscan)

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The goals of this presentation are to improve the accuracy of age determination by combining the results of two methods, Lamendin and Iscan method.

Estimating the age of non-identified individuals at death is a difficult task in forensic practice, because no method has proven to be accurate. The ideal method for age determination must be simple, reliable, and precise. Most of the authors recommend use of the many age indicators available.

A few years ago, the authors proposed a method, the Two Step Strategy (TSS), combining the Schey-Brook system and the Lamendin method. The two step strategy consisted of looking first at the pubic bone to determine sex and phase and then to determine estimated age from the SBS alone when the individual showed phase I, II, or III morphology or from the Lamendin method alone if phase IV, V or VI morphology existed. The objective of this project was to try to improve the accuracy of age determination by combining the results of two methods.

The Iscan method is widely used and considered simple (especially with the help of pubic casts) and reliable. This method is based on the interpretation of the sternal articulation aspect of the fourth rib. Unfortunately, in individuals over 40 (phase VI, VII, VIII) this method is not precise enough (SD over 10 years). Interestingly it is only in individuals under 40 that the Lamendin method shows SD over 10 years. This method is based on the measurement of translucence and periodontosis heights of an intact monoradicular tooth (preferably an upper incisor).

The goal was to assess which was the best way to combine these methods in order to improve the age estimation accuracy without decreasing reliability.

Samples of 39 Caucasians males (16 to 64 year of age) for whom the fourth rib and an upper incisor were both available comprised the study. An estimate was considered correct when actual age determination from the rib fell within the mean  $\pm$  1 SD of the Iscan phase and from the tooth within the estimated age  $\pm$  1 SD of the decade. The «combination» of results gave an estimation using the age interval common to the Iscan and the Lamendin method (which very often resulted in a more «precise» estimation). The results will be developed and discussed.

#### Results observed (1):

	Total sample	<40 years	>40 years
N	39	28	11
Correct aging	%	%	%
Iscan	64	57	54,5
Lamendin	69	68	72
Combining method	69	68	72

#### Results observed two:

	Total sample	<40 years	>40 years
N	39	28	11
Correct aging	%	%	%
Iscan	71	75	63,6
Lamendin	69	68	72
Combining method	74,5	75	72

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#### Physical Anthropology, Forensic Odontology, Age Determination