



## Odontology Section – 2011

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### **F45 Demonstration of the Fishman Method of Evaluating Hand-Wrist Radiographs and Its Forensic Application**

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After attending this presentation, attendees will see a demonstrated technique for evaluating hand-wrist radiographs for the purpose of evaluating skeletal maturity. This method is commonly used in the field of orthodontics to estimate peak growth.

This presentation will impact the forensic science community by sharing a method commonly employed in the field of orthodontics and discussing its value as applied to age estimation for forensic purposes.

The hand-wrist film is an important diagnostic tool for predicting skeletal maturation. There are a number of methods used to assess skeletal maturation from these images.

In the 1930s, Professor T. Wingate Todd published an atlas of skeletal development with hand wrist radiographs. Following in 1959, Greulich and Pile revised the hand wrist atlas. This atlas is still in use today. During the 1970s and 1980s, several papers were written with the goal of synthesizing the data to a uniform and easily managed assessment. The Fishman analysis was first published in 1982. This method has since been utilized by orthodontists to predict peak pubertal growth.

The Fishman approach is easy to utilize. It reviews six anatomical sites. From these sites, four developmental categories are evaluated. The result is eleven stages of skeletal maturation. Assigned to each stage of skeletal maturation is an age range with standard deviation as seen in both males and females. The process of determining sites, assigning developmental categories and staging the image will be demonstrated.

Applying this method to hand wrist radiographs for forensic age estimation not only provides an average age for adolescents for the particular stage but will provide an age interval and confidence interval.

**Forensic Odontology, Age Estimation, Hand-Wrist Radiographs**