Research at CCAH

●Enamel hypoplasia (Amelogenesis imperfecta) in Samoyed dogs

Amelogenesis imperfecta is an inherited disease of enamel formation. Enamel formation starts before the eruption of the first teeth and involves many different genes. Defects in any one of these genes can result in defects in the formation of baby and permanent teeth. The genetic basis of enamel defects in humans is well known and has only been recently shown to be inherited in Standard Poodles and Italian Greyhound dogs. Normal enamel functions to seal the tooth from bacteria, protect and insulate the tooth, provide strength to the tooth, and create a smooth surface which helps prevent plaque from accumulating on the surface of the tooth. The crowns of affected teeth are pitted, rough and are chalky or discolored brown. The teeth readily stain and attract plaque. Amelogenesis imperfecta, also known as familial enamel hypoplasia in Italian Greyhounds and Standard Poodles, is relatively mild and the affected teeth function in a near-normal fashion. However, a form of the disease now being seen in Samoyed dogs is particularly severe. Affected dogs are more prone to abrasion and fracture of teeth, periodontal disease, dentin sensitivity and possibly pulpitis and pulp death. The goal of this research, which is being undertaken as a collaboration with Dr. Bonnie Shope, a board certified veterinary dentist, is to study familial enamel hypoplasia in the Samoyed breed, to determine which gene is affected, the mode of inheritance, and potentially to develop a genetic test which could be used to screen breeding dogs to help eliminate this disease from the breed. Owners and breeders of Samoyed dogs with this defect are urged to participate in this study by contributing DNA samples along with pedigree information. We are also in need of DNA from dogs with normal teeth and dogs with normal teeth that have close relatives that are affected. Please e-mail either: Dr. Bonnie Shope bshope@veterinarydental.com, or Dr. Niels C. Pedersen ncpedersen@ucdavis.edu for information on how to participate in this study.

Enamel dysplasia and gingivitis– right mandibular teeth in a Samoyed dog

Enamel dysplasia – maxillary canine teeth in a Samoyed dog

Enamel dysplasia and periodontal disease – right mandibular teeth in a Samoyed dog

Enamel dysplasia – maxillary canine teeth in a Samoyed dog

Enamel dysplasia left maxillary teeth, and periodontal disease at the left maxillary first molar tooth – in a Samoyed dog