

## Norwich Terriers, 5-14

### Title: What to do about missing teeth?

In many breeds, including Norwich Terriers, missing teeth are common. In her critique of our 2013 national specialty entry, Lydia Hutchinson wrote, “My main concerns were with mouths ... Some bites were questionable, some mouths would not close completely, and way too many dogs had missing lower incisors.” Likewise, in the UK, Andrew Brace (Blackpool show 2011) noted that, “Missing teeth still seem to be a problem.” Teeth are important for health reasons. Proper occlusion is necessary for chewing, however, a functional bite is less important today than it was to wolf ancestors who needed strong jaws and big teeth. Arguably a working terrier without teeth cannot do his job, but the degree of the problem really depends on which teeth are missing and how many. Adult dogs are expected to have 6 upper and 6 lower incisors, 2 upper and 2 lower canines, 8 upper and 8 lower premolars, and 4 upper and 6 lower molars. To accommodate all these teeth, the muzzle needs to be long and broad enough. Short-muzzled breeds like Norwich Terriers may not have room for all their teeth resulting in malocclusion (teeth don't come together properly), or *oligodontia* which refers to several missing teeth, but not all. Premolars are most likely to be absent and sometimes incisors fail to develop. But, interestingly, the Norwich Terriers standard does not fault missing or maligned teeth. It simply says, “scissors bite”. We know that the breed standard is intended to be a guide for breeders and judges, emphasizing features that make the breed unique and those qualities needed to do the job for which it was created—in the case of Norwich to hunt small vermin. So, when the standard is silent, how much focus should be placed on missing teeth? Honest breeders acknowledge the problem and related problems of a narrow jaw, crooked/crowded teeth, and little “rice” teeth, but clearly we do not want the problem to worsen. In a breed with small litters, we can't afford to “throw the baby out with the bathwater”! To deal with this problem, breeders need to understand how to use basic genetic concepts to select for traits—methods differ for polygenic traits versus simple recessive traits. Unfortunately, there is little to guide us; information about heritability of dental disorders in the peer-reviewed veterinary literature is sparse. Given the complex structure of the skull and jaw these problems are likely polygenic. So, how do we improve? As a starting point, do not breed a dog with missing teeth to other dogs with missing teeth or to their near relatives; the offspring should then guide future breeding. A dog's dental faults—whether in the whelping box or show ring—must be weighed along with his other virtues and faults. For breeders, Malcolm B. Willis sums it up, “There is no crime in producing a defect. The crime, if any, lies in what you do about a defect. If you bury yours quickly and keep quiet about it, and I do the same with mine, then sooner or later we may use each other's dogs and pay the penalty for not having been honest with one another and with the breed we probably profess to love.” Missing teeth are a defect. For judges, weigh missing teeth of an exhibit alongside other merits of the dog.

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