AMERICAN AND CANADIAN MANCHESTER TERRIER CLUBS

Results

2020 Dentition Survey

Manchester Terriers (Toy & Standard) in North America

The American and Canadian Manchester Terrier Club Health Committees would like to thank all the owners and breeders who contributed to this project through completion of the Dentition Survey.

Overview

In April-May 2020, the American and Canadian Manchester Terrier Clubs administered an online survey of Manchester Terrier owners and breeders in North America regarding the status of bites and dentition in the breed.

The Dentition Survey was delivered electronically via a web-based form hosted by the Canadian Manchester Terrier Club website. The survey was promoted regularly on Facebook across the survey period with additional promotion completed through partner club newsletters and membership-wide emails. The survey contained both a video demonstrating how to correctly count teeth on a Manchester Terrier as well as three diagrams illustrating bite choices and tooth placement and numbering. These images have been reproduced in this analysis for reference.

Respondents were asked to complete a survey for all dogs alive as of the date the survey; aged 6 months to 8 years old; living in Canada or the United States; and, have not had teeth removed as a result of veterinary intervention.

Interpreting Survey Results

When reading this report, it is important to remember that dentition was not certified in any way. Tooth counts were made and reported by owners and breeders with varying degrees of experience in counting teeth. The results can be taken as somewhat representative, however may not be error free.

Highlights

Missing Teeth

- 50% of Manchester Terriers being shown and/or bred have full dentition, including 56% of Standard Manchesters and 44% of Toy Manchesters.
    - 44% of SMTs are missing at least one tooth and 26% are missing 2 or more teeth.
    - 56% of TMTs are missing at least one tooth and 46% are missing 2 or more teeth.
- Manchester Terriers who are missing teeth are missing an average of 3 each (app. 2.4 for SMTs and 3.6 for TMTs).
- Toy Manchesters were 12% more likely to be missing teeth and 21% more likely to be missing 2 or more teeth than Standard Manchesters. Additionally, they were missing 1.4 more teeth per dog on average.
- Bottom teeth were more likely to be missing than top teeth.
- Pre-molars were the teeth most likely to be missing, with 2nd Pre-molars the most commonly missing among all teeth.

Bites

- 8% of Manchesters had level bites, including 13% of Standard Manchesters. Most of them were champions and all but one had full dentition.
- Tooth spacing may not relate directly to missing teeth. 21% of Standard Manchesters reported gaps and spaces among incisors even though only one SMT in the sample was missing an incisor.

Core Breeding Dogs

- Among core breeding dogs, 53% of Manchesters are missing teeth and 37% are missing two or more teeth.
- There was a strong link between the breeding pool and conformation competition. 97% of breeding dogs were identified as current, past or potential conformation competitors and 82% of core breeding dogs were champions.
- The core breeding group included just 11 unneutered Standard males and 10 unneutered Toy males with full dentition.

Core Breeding Dogs

To provide greater insight into the breeding population specifically, some calculations were done based on a group called *core breeding dogs*. These are confirmed or potential breeding dogs only who are over one year of age. Results are presented in observation form across the document.

Interesting Correlations

- Males were more likely to have full dentition and females were more likely to be missing 2 or more teeth as well as to be missing certain types of teeth.
- Weight appears to influence dentition. The proportion of dogs with full dentition grew and the average number of teeth missing decreased as the dogs became larger (measured by weight).
- Missing teeth did not relate strongly to championship status.

Demographics

A total of 158 responses were received. Only 6% of each variety were inputted by companion owners (i.e., those who indicated have not and do not intend to show or breed their dog). With such a small sample, we have elected to confine our analysis to the dogs identified as confirmed or potential competitors in conformation and/or contributors to the gene pool.

Vital Statistics						
	Total	Male	Female	Avg Age	Spay/Neut.	Avg Weight
All	138	41%	59%	3.5 yrs	12%*	
SMT	68	41%	59%	3.8 yrs	16%*	19.3 lbs
TMT	70	40%	60%	3.2 yrs	9%*	10.4 lbs

*Average age of spayed/neutered dogs was 6.6 years

Activities				
	Breeding*	Showing*	Finished Champions**	Too Young to Show
All	91%	97%	70%	14%
SMT	90%	97%	75%	12%
TMT	9%	97%	64%	16%

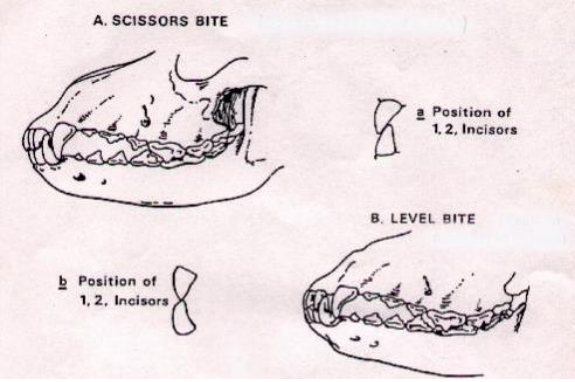
*Proportion of owners indicating their dog has already or will be bred/shown.

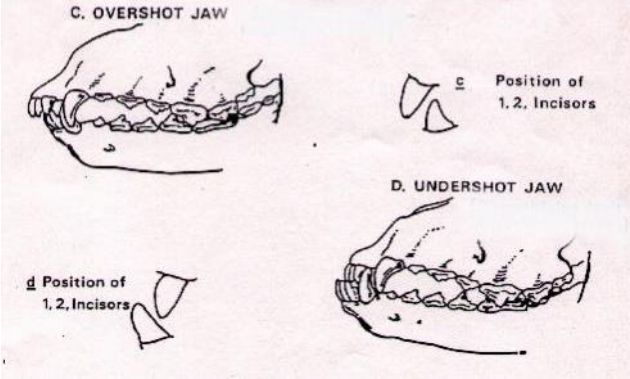
** Among all dogs in the sample, including those not being shown and those too young to have completed their title

Observations

- There was a strong link between the breeding pool and conformation competition/championship status.
    - Among the 125 total breeding dogs in the sample, all but four (3%) were conformation competitors.
    - 82% of *core breeding dogs* (85% of SMTs and 78% of TMTs) were champions.
- Non-show breeding dogs may offer insight into the number of over- or undersized dogs currently kept in the gene pool when showing opportunities are limited.
    - While it is a small sample, there is some evidence that size may have played a role in their status.
    - This group was composed of two SMTs and two TMTs. Both Toys weighed over 12 pounds and one of the SMTs weighed 14.5 pounds (it did not have any Toy parents).
    - This is a correlation only and should not be interpreted as causation.

Bite Quality





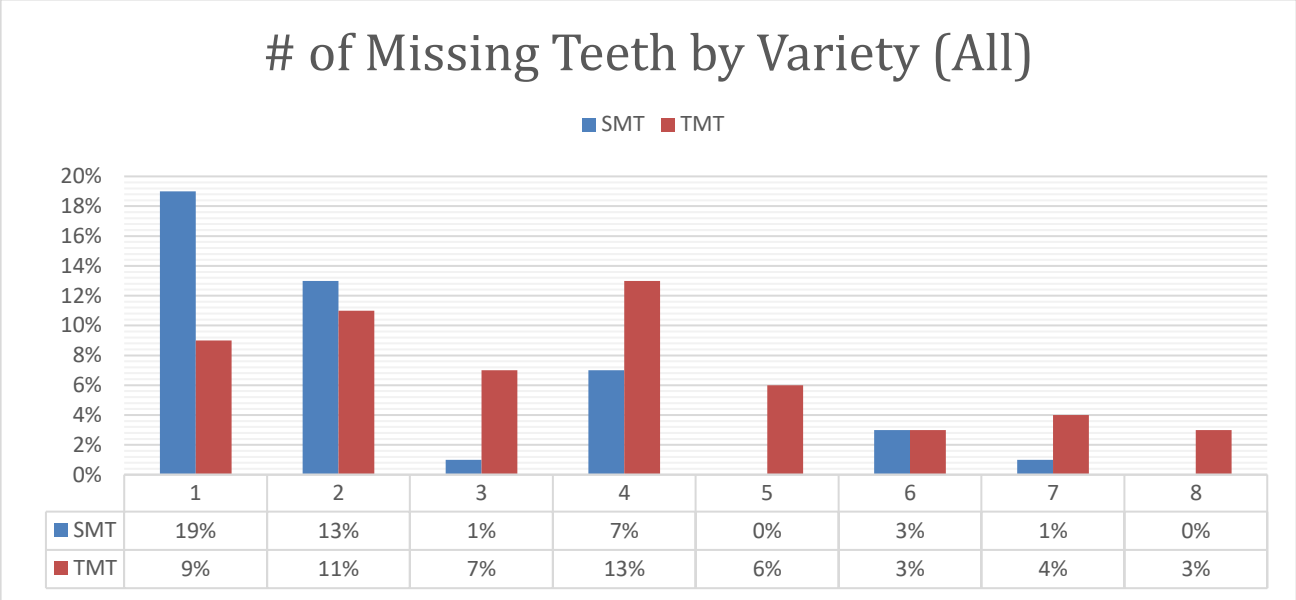
Bite Quality				
	Scissors	Level	Overshot	Undershot
All	91%	8%	3%	1%
SMT	87%	13%	0%	0%
TMT	94%	3%	3%	0%

Observations

- 8% of Manchesters had level bites, including 13% of Standard Manchesters. All of them (9 SMTs and 2 TMTs) were conformation competitors and 7 of the 11 are champions. All but one had full dentition.
- Among all respondents, just one companion Standard Manchester reported an undershot mouth. It is not included int eh statistics above as analysis was limited to breeding and conformation dogs.

Missing Teeth

Missing Teeth - All					
	Full Dentition	Missing at least 1	Missing 1	Missing 2	Missing 2 or more
All	50%	50%	14%	12%	37%
SMT	56%	44%	19%	13%	26%
TMT	44%	56%	9%	11%	47%



	1	2	3	4	5	6	7	8
SMT	19%	13%	1%	7%	0%	3%	1%	0%
TMT	9%	11%	7%	13%	6%	3%	4%	3%

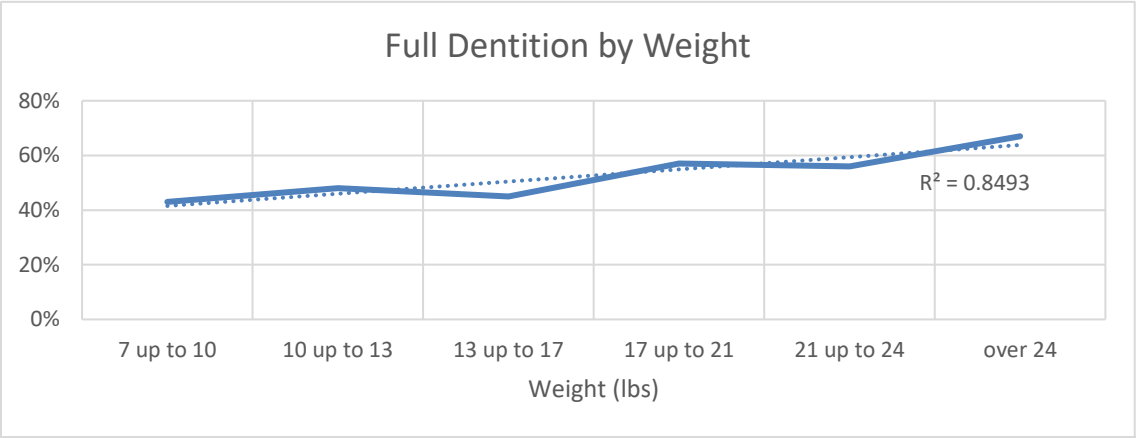
Missing Teeth – Core Breeding Dogs					
	Full Dentition	Missing at least 1	Missing 1	Missing 2	Missing 2 or more
All	47%	53%	16%	1%	37%
SMT	52%	48%	22%	13%	26%
TMT	40%	60%	10%	10%	50%

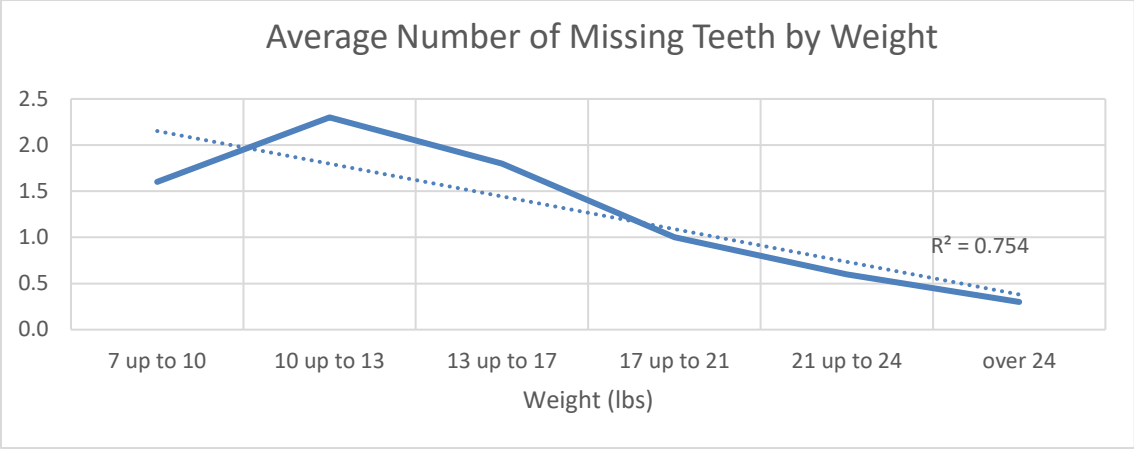
Average Missing Teeth						
	All Dogs		Core Breeding Dogs		Champions	
	All	DMT	All	DMT	All	DMT
All	1.5	3	1.6	3	1.7	3
SMT	1	2.4	1	2.2	1.1	2.4
TMT	2	3.8	2.3	3.8	2.2	3.6

*All = average across the entire population. DMT = Average among dogs missing teeth.

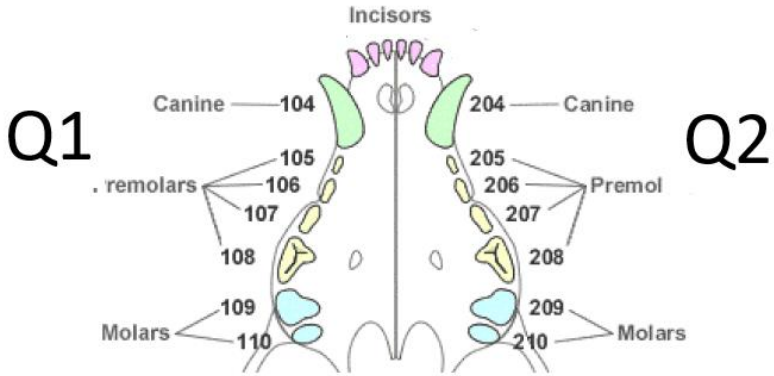
Observations

- Overall, Manchester Terriers who are missing teeth are missing an average of 3 teeth each (approximately 2.4 for SMTs and 3.6 for TMTs).
    - Whether taken as a full group or broken down into breeding and show sub-groups, the average number of missing teeth was fairly consistent.
    - Two averages have been presented in the chart above. The second figure (DMT) is higher because it considers only dogs who are missing teeth rather than an average across the entire population.
- Toy Manchesters were 12% more likely to be missing teeth and 21% more likely to be missing 2 or more teeth than Standard Manchesters. Additionally, they were missing 1.4 more teeth per dog on average.
- This sample does not indicate a strong correlation between dentition and championship status.
    - Among all Manchesters in the sample who had completed their championship, 54% were missing teeth
        - 47% of SMT champions were missing teeth. SMT champions who were missing teeth were missing an average of 2.4 teeth each.
        - 62% of TMT champions were missing teeth. TMT champions who were missing teeth were missing an average of 3.6 teeth each.
    - Additionally, 42% of SMT and 50% of TMT core breeding dogs were champions who were missing teeth.
- Toy parentage does not appear to have affected measurement of dentition in Standard Manchesters in this sample.
    - A total of three Standard Manchester owners indicated that their dog had 1 Toy parent and four had 2 Toy parents.
        - Four of these dogs had full dentition (split evenly between the two groups).
        - Of the three who were missing teeth, all were missing two P2 Premolars (the most commonly missing tooth across all Manchesters).
    - Rates and severity of missing teeth appeared similar across the Standard size range regardless of parentage. As the sample was small, however, no firm conclusions can be drawn. If there is interest, additional study of this feature could be undertaken.
- Several significant differences were observed in dentition as a function of sex. It is unknown if these differences reflect sexual characteristics, size or a difference in selection criteria among breeders and owners.
    - Males were 22% more likely to have full dentition (63% vs. 41% of females)
    - Females were 22% more likely to be missing 2 or more teeth (45% vs 23% of males) and were 2x as likely to be missing 4 or more teeth (26% vs 13% of males)
    - Females were 19% more likely to be missing bottom pre-molars (46% vs 27% of males)
- The sample included a total of 38 unneutered males (20 SMTs and 18 TMTs) who were identified as breeding dogs. 21 of these dogs have full dentition (11 Standards and 10 Toys). If there is interest, follow-up study on dentition of relatives (parents, siblings, offspring, etc.) may be of interest.
- In this sample, both full dentition and the average number of missing teeth correlated strongly with weight. As demonstrated by the charts below, overall the proportion of dogs with full dentition grew and the average number of teeth missing decreased as the dogs became larger as measured by weight.

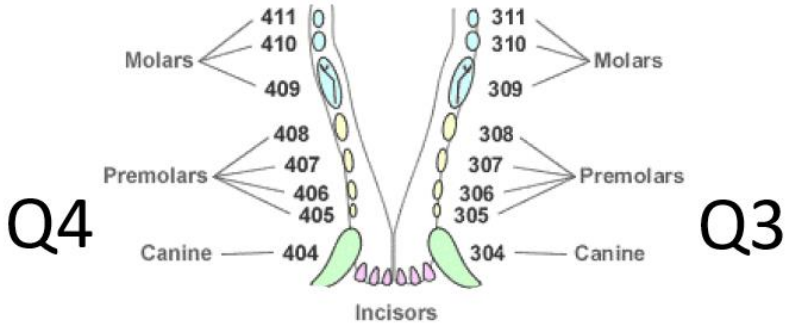

Full Dentition by Weight
80%
60%
40%
20%
0%
R² = 0.8493
7 up to 10
10 up to 13
13 up to 17
17 up to 21
21 up to 24
over 24
Weight (lbs)


Average Number of Missing Teeth by Weight
2.5
2.0
1.5
1.0
0.5
0.0
R² = 0.754
7 up to 10
10 up to 13
13 up to 17
17 up to 21
21 up to 24
over 24
Weight (lbs)

UPPER JAW



Missing Teeth in the Upper Jaw (Quadrant 1)							
	Canine (104)	P1 (105)	P2 (106)	P3 (107)	P4 (108)	M1 (109)	M2(110)
All	0%	7%	16%	1%	0%	0%	2%
SMT	0%	4%	9%	3%	0%	0%	3%
TMT	0%	10%	23%	0%	0%	0%	1%
Missing Teeth in the Upper Jaw (Quadrant 2)							
	Canine (204)	P1 (205)	P2 (206)	P3 (207)	P4 (208)	M1 (209)	M2(210)
All	0%	9%	12%	3%	0%	0%	1%
SMT	0%	3%	9%	1%	0%	0%	1%
TMT	0%	14%	16%	4%	0%	0%	0%



LOWER JAW

Missing Teeth in the Lower Jaw (Quadrant 3)								
	Canine (304)	P1 (305)	P2 (306)	P3 (307)	P4 (308)	M1 (309)	M2(310)	M3 (311)
All	0%	7%	20%	7%	3%	0%	0%	4%
SMT	0%	6%	19%	6%	0%	0%	0%	4%
TMT	0%	9%	20%	7%	6%	0%	0%	4%
Missing Teeth in the Lower Jaw (Quadrant 4)								
	Canine (404)	P1 (405)	P2 (406)	P3 (407)	P4 (408)	M1 (409)	M2(410)	M3 (411)
All	0%	9%	17%	10%	4%	0%	1%	7%
SMT	0%	6%	13%	7%	0%	0%	0%	7%
TMT	0%	7%	20%	13%	7%	0%	1%	6%

Observations

- All Manchesters in both varieties across the entire sample (including companion dogs) had all four canine teeth.
- The 2nd Pre-molar was the most commonly missing tooth in all four quadrants, though it was slightly more likely to be missing on the bottom than on the top.
- Bottom teeth were more likely to be missing than top teeth.
    - Standard Manchesters were more than twice as likely to be missing at least one bottom premolar (34%) than top (16%).
    - Miissing premolars in Toy Manchesters were roughly equal between the jaws, with 43% missing at least one bottom premolar and 39% at least one on top. Bottom incisors were also more likely to be missing.
    - No difference was observed in top and bottom molars.
- Overall, Toy Manchesters were 23% more likely than Standards to be missing Top pre-molars (39% versus 16%) and 11% more likely to be missing bottom pre-molars (43% versus 34%).
- Approximately 5% of respondents indicated they didn't know or couldn't see whether their dog's top molars were present and 10% didn't know or couldn't see bottom molars. In some cases, the owners did not report any information and in others they provided their best assessment.

Incisors						
	Top Incisors	Bottom Incisors	Straight Line	Tightly Packed	Spaced Out	Gap
All	1%	9%	96%	80%	8%	12%
SMT	0%	1%	91%	79%	9%	11%
TMT	3%	16%	100%	81%	7%	11%

Observations

- Tooth spacing may not relate directly with missing teeth. Only one Standard Manchester reported a missing incisor compared to 19% of Toy Manchesters. Despite this, a similar proportion of dogs in both varieties (21% of Standards and 19% of Toys) reported incisors on either the top or bottom were spaced out or had a gap.
- 9% of Standards reported incisors not forming a straight line. All the dogs had a regular compliment of incisors. 0% of Toys reported incisors out of line.
- Among Toy Manchesters who were missing incisors
    - 46% (6) were missing one, 46% (6) were missing two, and 8% (1) were missing three.
    - 42% had tightly packed incisors, 33% reported a gap where the tooth/teeth should be and 25% said the incisors were evenly spaced out.

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