Abstract by Jeffrey Bewley - Potential utility of a parlor-based individual quarter milking system

Overmilking may lead to teat end lesions because of excessive forces exerted by vacuum and the collapsing liner during milking. A study was conducted at the University of Kentucky Coldstream Dairy to examine changes in teat end condition in a herd transitioning from a standard single quarter pulsation system to an individual quarter pulsation milking system. Teat end condition was evaluated immediately after cluster removal using the scoring system outlined by Mein et al. (2001) where N signifies no ring; S signifies a smooth, raised ring; R signifies a rough ring; and VR signifies a very rough ring. Scorings were classified relative to installation (April 28, 2011) of the Milpro P4CTM (Milkline, Gariga di Podenzano, Italy) system as follows: PRE1-April 7; PRE2-April 21; POST1-May 12; POST2-May 26; POST3-June 9). The Milpro P4CTM system stops milking individual quarters using a unique individual quarter pulsation system with four pulsation channels instead of one. Teat end condition was evaluated for 109 cows during the study. Teat end condition scores were converted to numerical values progressing from least desirable to most desirable as follows: N = 1; S = 2; R = 3; VR = 4. Only cows (n = 69, 48 Holstein, 12 Crossbred, and 9 Jersey) with scores available for the entire study period were included in the final analysis. The GENMOD Procedure of SAS® (SAS 9.3, SAS Institute, Inc., Cary, NC) was used to calculate odds ratios for the relative risk of receiving a higher teat end condition score. This model was performed as a repeated measures analysis with variables repeated by scoring with cow as subject. The odds of a cow having a higher teat end condition score in PRE1 and PRE2 were 1.67 and 1.62 higher, respectively, than in POST3 ($P < 0.05$). The frequency of more desirable teat end condition scores (N and S) increased after the installation of the individual quarter pulsation system.