Racing Performance after Colic Surgery in 209
Juvenile Thoroughbreds

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A foal’s age strongly influences the gastrointestinal lesions that require abdominal exploratory surgery. Both age and lesion have an effect on short-term survival and racing record. Horses surviving colic surgery as juveniles are less likely to race than their siblings. However, if a horse did start a race, the number of starts, years raced, and money won were not different between the subject and control groups. Authors’ addresses: University of Wisconsin School of Veterinary Medicine, 2015 Linden Dr. West, Madison, WI 53706 (Santschi and Markel); University of Wisconsin College of Agricultural and Life Sciences, Rm. 380, Russell Laboratories, Madison, WI 53706 (Clayton); Peterson & Smith Equine Hospital, 4747 S.W. 60th Ave., Ocala, FL 34474 (Slone); and Rood & Riddle Equine Hospital, P.O. Box 12070, Lexington, KY 40580 (Embertson). © 1999 AAEP.

1. Introduction
This study examines the medical and race records of thoroughbred horses that had colic surgery before 2 years of age.

2. Materials and Methods
A. Horses
The medical records of horses less than 2 years of age that had an exploratory celiotomy for colic in 1986–1990 at two private practices were examined. The horses were divided by age: neonates (0 to 15 days of age), sucklings (16 days to 5.9 months), weanlings (6 to 11.9 months), and yearlings (12 to 23.9 months). The causes of colic also were grouped. The incidence of postoperative adhesions was determined at subsequent celiotomy or necropsy. Race records of the surviving subject foals and control foals (foals born to subjects’ dams in 1985–1990) were obtained from the Jockey Club.

B. Statistical Methods
Continuous variables (number of starts, years raced, and cash won) were analyzed using a nonparametric two-way ANOVA that accounted for dam and for nature of lesion. All other variables were analyzed using chi-squared tests. A p value <0.05 was considered significant.

3. Results
There were 209 subject foals and 510 control foals. There were 16 neonates, 64 sucklings, 36 weanlings, and 93 yearlings in the subject group. Lesions causing colic included primary adhesions (5), enteritis (24), nonstrangulating obstructions (111), stran-
gulating lesions (41), peripartum problems (5), gastric ulcer syndrome (20), and unknown (3).

There was a significant association between age and the lesion causing colic. Nonstrangulating lesions were more frequent in weanlings (69% of weanlings were affected by a nonstrangulating lesion) and yearlings (75%) than other age groups. Enteritis was more common in neonates (31%) and sucklings (17%) than weanlings and yearlings. Surgical intervention for gastric ulcer disease occurred more commonly in sucklings (30%) than in all other age groups. Twenty-eight horses were killed at the first celiotomy (13%). Four horses were killed or died during hospitalization. One hundred seventy-seven horses of 209 (85%) were discharged (short-term survival) from the hospital. Short-term survival was not significantly affected by age at presentation, although discharge rate tended to increase with age. Short-term survival was significantly affected by lesion; nonstrangulating obstructions (98%) and enteritis (92%) were significantly more likely to be discharged than other causes (63%).

Twenty-one horses had two surgeries; lesions at the second surgery included adhesions (13), ileus (2), small anastomotic stoma (2), and one each of ruptured gastric ulcer, strangulation through a mesenteric rent, further colon necrosis, and pelvic flexure impaction. Two horses had a third celiotomy, both because of adhesions. Age at the initial surgical treatment but not lesion significantly affected the number of surgeries; sucklings received multiple surgeries (19%) more frequently than yearlings (6%). Three horses were killed without surgery after discharge from the hospital for causes related to the colic surgery (peritonitis, adhesions). Eight percent of foals recovered from a first celiotomy developed adhesions. Age and lesion affected adhesion formation; sucklings (18%) formed adhesions more frequently than yearlings (3%), and foals with primary adhesions (40%) formed adhesions more frequently than foals with nonstrangulating lesions (4%).

One hundred twelve of 174 discharged horses (three race records could not be found) started at least one race (64%). Age of the foal at colic surgery and lesion significantly affected the ability to start a race. Yearlings (65%) and weanlings (60%) raced more frequently than sucklings (36%). Foals affected with nonstrangulating lesions (70%) raced more frequently than foals affected by other lesions (37%). Significantly more control foals (82%) started at least one race. However, if a horse were able to start a race, there were no differences between the subject and control groups in the number of starts, years raced, and money won.

4. Discussion

Age of a foal when colic occurs and the lesion that causes colic were related and have an effect on survival, adhesion formation, and racing performance. Sucklings were more likely to be affected by adhesions and were less likely to race. Further study is indicated to determine the specific events that impact the health of thoroughbred sucklings.

For breeders of equine athletes, knowledge of the ability of an animal to later perform is important information whether to have colic surgery performed. Foals that required colic surgery had an 85% survival rate, and 64% of survivors started a race. This starting rate for horses that had colic surgery as foals was less than their siblings. Once racing, horses that had colic surgery as foals performed similarly to their siblings.