Hyperthyroidism is a common medical condition in older cats, causing weight loss, increased appetite, and increased activity. There are several types of treatment. One is the use of the drug methimazole. For years, this has been given orally once or twice a day to cats with hyperthyroidism. Since it is difficult to give oral medications to many cats, other ways of delivering the medication have been examined. One option is to put the drug in a chemical gel that aids in the absorption of the drug through the skin. These are called transdermal gels, and are generally applied to areas of the body with little or no hair.

Investigators at the University of Wisconsin School of Veterinary Medicine compared the use of oral versus transdermal methimazole in cats.

What the researchers wanted to know: Is transdermal methimazole as safe and effective as oral methimazole for the control of hyperthyroidism in cats?

What the researchers did: Forty-seven cats with newly diagnosed hyperthyroidism were divided into two groups. One group received transdermal methimazole applied to the ear, and the other received oral methimazole. Cats were evaluated at the beginning of the study and at 2 and 4 weeks into the study: they were weighed; given a physical exam, which included blood pressure measurement; and had blood drawn for a CBC (complete blood count), chemistry panel, and total levothyroxine (T4) concentration. In addition, the owners completed a questionnaire. Data between the 2 groups were compared. Thirty-two cats completed the study.

What the researchers found: Significantly more cats treated with oral methimazole had serum T4 concentrations within the normal range after 2 weeks compared to those treated by the transdermal route. This difference was no longer statistically significant by 4 weeks of treatment, possibly because of inadequate numbers of cats completing the study. Cats treated with oral methimazole had a higher incidence of gastrointestinal side effects, but no differences were found between the groups in the incidence of neutropenia, hepatotoxicity, or facial excoriations (other possible side effects of methimazole therapy).

What the researchers concluded: Although the overall efficacy of transdermal methimazole is not as high as that of oral methimazole at 2 weeks of treatment, results were similar after 4 weeks of treatment. Transdermal methimazole is associated with fewer adverse effects on the digestive system compared to the oral route.