

Alexis Shinn

*The Correlation Between the Menstrual Cycle and Female Anterior Cruciate Ligament Injuries*

The purpose of this project was to identify the correlation between the menstrual cycle and female Anterior Cruciate Ligament injuries. The purpose was to also find if hormone changes (with the use of birth control pills) would prevent injuries during certain times of the menstrual cycle. The researcher acquired subjects from a physical therapy clinic and a surgeon's clinic to fill out surveys that were created by the researcher. The surveys were accompanied by a letter and an informed consent. The researcher then harvested ligaments and tendons from porcine and bovine to expose to hormones. The data showed that the most tears occurred during menstruation, the next highest was during ovulation, and tears during the luteal phase and follicular phase tied. The data also showed that more patients who sustained injuries were not on birth control, showing that birth control could prevent injuries. With 27 ACL tears, 13 were during menstruation, 3 during ovulation, 3 during the luteal phase, 4 during the follicular phase, and 4 did not remember. With 2 partial ACL tears, 1 was during menstruation and 1 did not remember. With a total of 49 different tears, 22 were during menstruation, 8 during ovulation, 6 during the luteal phase, 6 during the follicular phase, and 7 did not remember. Out of 27 ACL tears, 6 patients were using birth control while 21 were not. Out of 2 partial ACL tears, 1 was using birth control while 1 was not. The ligament stretching test showed the ligaments were less lax during week 3 and without birth control.