

Supplemental Video 1. Tfm/tg males with functional AR only in muscle fibers show androgen-dependent loss and recovery of motor function. The first segment shows the motor function of an untreated adult tfm/tg male. Because tfm/tg males have low circulating levels of testosterone (T) in adulthood like tfm-only males, they are healthy and exhibit normal motor function, with the AR transgene having apparently no effect. Thus, they show a high level of activity and exploratory behavior in a novel cage. However, increasing circulating T to normal male levels in tfm/tg males by implanting a T capsule (details of capsule in Methods section) causes rapid deterioration of motor function ([Figure 5](#)). After 9 days of T treatment, tfm/tg males move very slowly and show little to no exploratory behavior in a novel cage, and have an altered gait, as shown in the second segment of this video. In the third segment, we show that the effects of T are fully reversible, with tfm/tg males resuming high levels of activity and exploratory behavior in a novel cage within a week after cessation of T.