

TyraTech® Head Lice Efficacy Study

An *in-vitro* laboratory study compared the efficacy of a non-toxic TyraTech experimental head lice formulation (2.5% natural oil blend) with two of the leading OTC head lice products, Nix® (1% permethrin) and Rid® (0.33% pyrethrins; 4% PBO). The study was conducted at a licensed head lice medical clinic in S. Florida in December, 2011. Lice were collected from human subjects (clinic patients) and were immediately placed into tests. The protocol utilized was a standard dip method in which lice are exposed to each treatment for 10 minutes followed by a water rinse. Lice knockdown (KD) and mortality were observed at various intervals up to four hours post-treatment. The test design consisted of three treatments and a control (water); three replicates per treatment and ten lice per replicate (five adults and five immatures). Results showed that the TyraTech formulation produced 100% lice KD and mortality at five minutes post-treatment. Lice KD from the Rid treatment was approximately 33% at 10 minutes post-treatment but 100% of the lice had partially or fully revived by 90 minutes resulting in zero mortality at 4 hours. All (100%) of the Nix treated lice were fully or partially active at all post-treatment intervals with no mortality observed at 4 hours. The dramatic failure of the OTC treatments is most likely due to the high levels of insecticide resistance present in the head lice populations of south Florida. The TyraTech natural oil formulation is a safe and extremely effective solution for controlling resistant head lice.

