

New Formulations for Male Contraceptive Methods

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Access to effective contraception is an essential component of reproductive health, ensuring that every child is wanted, and reducing the burden of unintended pregnancies. Contraceptive methods are not only important for individuals and couples, but play an essential part in population dynamics. Research in this area is needed to offer more options also to men, so that they can share more of the responsibility for contraception with their partners. Simplicity, reversibility and effectiveness are the desired features of a male contraceptive. In a large survey men interviewed favored methods such as a "pill" or a long-acting implant, or a transdermal gel.

A transdermal gel formulation delivering Segesterone acetate [Nestorone® (NES)] and testosterone (T) showed high efficacy in the initial clinical trials. A novel transdermal Liqui-Patch (LP) formulation of NES and T may reduce drug transfer potential as the formulation is applied as a liquid by airless pump spray, that dries rapidly and forms a thin film.

Magnetic-based multidrug nanoparticles have been widely used for targeted cancer treatment and may be effective to reduce the effective dose of selective non-hormonal agents such as Adjudin since the magnetic field will direct the active molecule to the testis.

Emerging scientific opportunities may shape the future scientific agenda in reproductive research in the context of new and advanced technologies. New materials designed for targeted delivery of novel contraceptive molecules, avoiding systemic actions and specific to the reproductive tract, may become available in the next decade.