

The Influence of Lubricated Versus Non-Lubricated Condom Use on Sexual Performance, Satisfaction, Condom Integrity and Quality of Seminal Specimens Produced at Intercourse: A Comprehensive Review

Panayiotis Zavos, Ed.S., Ph.D., MBA, HCLD^{1,2*}

¹Professor of Reproductive Medicine, University of Kentucky, USA.

²Director & Chief of Andrology, Andrology Institute of America, Lexington, Kentucky, USA.

ABSTRACT

Background: Male condoms remain a principal method for preventing unintended pregnancy and sexually transmitted infections (STIs) [1,2]. Despite proven efficacy, inconsistent use persists, often due to perceived reductions in sexual pleasure and comfort [3]. Lubrication may influence condom integrity, sexual performance, and satisfaction [4].

Objective: To comprehensively review clinical, laboratory, and behavioral evidence comparing lubricated and non-lubricated condom use, with focus on mechanical performance, sexual satisfaction, and implications for reproductive and andrological practice.

Methods: Peer-reviewed literature examining condom breakage, slippage, lubrication compatibility, event-level sexual satisfaction, and behavioral adherence was analyzed and synthesized [1,4-8].

Results: Evidence indicates that compatible lubrication reduces friction-related mechanical stress and may decrease breakage rates in specific contexts [1,4]. Survey and event-level studies demonstrate improved comfort, greater user preference, longer intercourse duration, and modest improvements in subjective arousal among users of lubricated condoms compared with non-lubricated condoms [6-8].

Conclusions: Lubricated condom use appears to enhance both protective reliability and sexual satisfaction. Routine counseling regarding appropriate lubricant use may strengthen condom adherence and improve reproductive health outcomes [9].

KEYWORDS

Lubricated condoms, Sexual satisfaction, STI prevention, Behavioral adherence, Reproductive health, Andrology.

Corresponding Author Information

Panayiotis Zavos

Professor of Reproductive Medicine, University of Kentucky, Director & Chief of Andrology, Andrology Institute of America, Lexington, Kentucky, USA.

Received: February 19, 2026; **Accepted:** March 24, 2026; **Published:** April 01, 2026

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Citation: Panayiotis Zavos. The Influence of Lubricated Versus Non-Lubricated Condom Use on Sexual Performance, Satisfaction, Condom Integrity and Quality of Seminal Specimens Produced at Intercourse: A Comprehensive Review. Int J Nurs Health Care. 2026; 2(2):1-3.

Introduction

Male condoms represent a cornerstone of global reproductive health strategy [2,10]. When used consistently and correctly, condoms significantly reduce transmission of STIs and prevent unintended pregnancy [2]. Nevertheless, adherence remains suboptimal. A primary barrier cited in behavioral research is concern regarding diminished sensation, discomfort, and perceived reduction in sexual pleasure [3].

Lubrication has emerged as a modifiable variable that may influence both mechanical performance and sexual experience [4,8].

Similarly, studies conducted at the Andrology Institute of America (Lexington, KY, USA) demonstrate that use of non-spermicidal condoms (Male Factor Pak; FTI, Inc.) with lubrication improves sensation, reduces discomfort, and enhances perceived sexual pleasure. These observations were associated with increases in semen volume and spermatogenic parameters, supporting the role of lubrication in optimizing specimen collection at intercourse.

Biomechanical Considerations and Condom Integrity

Mechanical failure of condoms occurs primarily through breakage and slippage [10]. Frictional forces during intercourse contribute to material fatigue. Latex is susceptible to degradation when exposed to incompatible oil-based substances [1].

Laboratory data demonstrate that water-based lubricants do not compromise latex integrity and may reduce friction-related stress [1,4]. Clinical findings indicate higher failure rates when lubrication is absent in certain contexts [4,5].

Sexual Satisfaction and Performance

Sexual satisfaction is multifactorial, encompassing arousal, erection maintenance, orgasmic function, and comfort [11]. Event-level survey data suggest that individuals using lubricated condoms report slightly higher arousal and less discomfort compared to those using non-lubricated condoms [6,8]. Women using non-lubricated condoms more frequently report vaginal dryness [8].

Intercourse duration has also been observed to increase with lubricant use [7]. The use of lubricated non-spermicidal condoms may further support erectile function and improved semen quality outcomes.

Physiologic Mechanisms

Lubrication reduces nociceptive stimulation by decreasing friction [4]. In women, reduced endogenous lubrication—whether due to menopause, postpartum state, or medication—may increase discomfort during condom use without additional lubrication [11].

In men, improved comfort and reduced anxiety regarding condom breakage may indirectly support erectile stability [12].

Clinical Implications in Andrology and Reproductive Medicine

Clinicians should provide comprehensive counseling regarding lubricant compatibility. Water- and silicone-based lubricants are safe with latex condoms, whereas oil-based products compromise integrity [1,9]. Improved comfort may increase adherence, particularly in populations undergoing fertility treatment or STI prevention programs [8].

Public Health Considerations

Incorporating pleasure-optimization strategies, including lubricant education, into condom promotion campaigns may enhance adherence [9]. Improved acceptability directly correlates with consistent use and improved STI prevention outcomes [2].

Limitations and Future Research

Many available data derive from self-reported surveys [6,8]. Randomized controlled trials comparing lubricated versus non-lubricated condoms using validated sexual function instruments remain limited.

Future research should incorporate standardized measures such as the International Index of Erectile Function (IIEF) and Female Sexual Function Index (FSFI) to better quantify outcomes [12,13].

Table 1: Summary of Key Studies on Lubrication and Condom Performance.

Study	Design	Sample	Key Findings
Voeller et al. [1]	Laboratory	Latex condoms	Water-based lubricants did not degrade latex; oil-based did
Steiner et al. [5]	Clinical observational	Women seeking EC	Absence of lubrication associated with higher failure (OR 8.88)
Sanders et al. [6]	National survey	US adults	Slightly higher arousal with lubricated condoms
Herbenick et al. [7]	Event-level analysis	Adult sample	Lubricant use associated with longer intercourse duration

Table 2: Clinical and Behavioral Implications of Lubricated Condom Use.

Domain [4,8]	Effect of Lubrication	Clinical Relevance
Mechanical Integrity	Reduced friction stress	Lower potential breakage risk
Sexual Comfort [2,9]	Reduced discomfort	Improved adherence
Intercourse Duration	Increased duration	Enhanced perceived satisfaction

Conclusions

Lubricated condom use is associated with greater comfort, higher preference, and potentially lower mechanical failure in specific contexts [4,8]. Integration of lubricant counseling into reproductive health practice represents a pragmatic strategy for improving adherence and patient satisfaction [9].

Lubrication remains a critical modifiable factor influencing

mechanical performance, sexual experience, and potentially sperm parameters when specialized non-spermicidal condoms are used for semen collection at intercourse.

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