



Can Estimated Intravaginal Ejaculatory Latency Time Be Used Interchangeably With Stopwatch-measured Intravaginal Ejaculatory Latency Time for the Diagnosis of Lifelong Premature Ejaculation?

Won Ki Lee, Sung Tae Cho, Yong Seong Lee, Young Goo Lee, Cheol Young Oh, Changhee Yoo, Jin Seon Cho, Tae Young Shin, Sang Kon Lee, Seong Ho Lee, Kyungtae Ko, and Dae Yul Yang

OBJECTIVE	To examine the correlation between estimated intravaginal ejaculatory latency time (eIELT) and stopwatch-measured intravaginal ejaculatory latency time (sIELT), and to assess the clinical utility of eIELT in identifying men more likely to have lifelong premature ejaculation (PE).
METHODS	A prospective, observational, multicenter study was conducted. Between July 2010 and August 2011, 118 healthy men aged 30-70 years, more likely to have lifelong PE, were recruited from 5 institutions in Korea. All patients underwent preliminary assessments including collection of medical and sexual history, physical examination, determination of eIELT, and the Premature Ejaculation Profile questionnaire. During the 1-week study period, patients were requested to engage in sexual intercourse at least twice and to record the sIELT.
RESULTS	eIELT and sIELT correlated well ($r = 0.512$; $P < .001$). However, eIELT was overestimated by a mean of 1.2 ± 0.2 minutes (median, 1.0 minutes) compared with sIELT ($P = .046$). eIELT showed a reduced correlation with the Premature Ejaculation Profile measures, compared with sIELT (each P -value $< .05$). The diagnostic accuracy of eIELT was 67.9% ($P = .001$), and an eIELT of 2 minutes was the acceptable cutoff value to diagnose lifelong PE.
CONCLUSION	Although eIELT correlated well with sIELT, it was overestimated by approximately 1 minute and had lower clinical utility than sIELT. Our study suggests that eIELT and sIELT cannot be directly interchanged and that caution should be used when substituting sIELT with eIELT to identify men who are more likely to have lifelong PE. UROLOGY 85: 375–380, 2015. © 2015 Elsevier Inc.

Premature ejaculation (PE) has been described as one of the most common male sexual dysfunctions.^{1,2} However, the prevalence of PE has not been even established, with estimates ranging from 3% to 30%.¹⁻³ One potential explanation for these varying results is the lack of a standardized definition of PE in these studies.

To date, several different definitions for PE have been suggested by various professional organizations and

individuals. The primary drawback of these definitions is that they are subjective and authority based. Recently, the International Society for Sexual Medicine (ISSM) recommended the first evidence-based definition for lifelong PE.^{1,2,4,5} The most significant characteristic of this new definition is the suggested use of an intravaginal ejaculatory latency time (IELT) cutoff of approximately 1 minute as an objective measure of short ejaculatory latency. More recently, the *Diagnostic and Statistical Manual of Mental Disorders* fifth edition (DSM-5) has also recommended an IELT cutoff point at approximately 1 minute.³

IELT, which describes the time from vaginal penetration to ejaculation in the vagina, was first introduced in 1994.⁶ After its introduction, stopwatch-measured IELT (sIELT) has been commonly used to objectively measure ejaculatory latency in clinical trials and is consequently

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From the Department of Urology, College of Medicine, Chuncheon Sacred Heart Hospital, Hallym University, Chuncheon Korea; the Kangnam Sacred Heart Hospital, Seoul, Korea; the Hallym University Sacred Heart Hospital, Anyang, Korea; the Dongtan Sacred Heart Hospital, Hwaseong, Korea; and the Kangdong Sacred Heart Hospital, Seoul, Korea

Address correspondence to: Dae Yul Yang, M.D., Ph.D., Department of Urology, Kangdong Sacred Heart Hospital, 445, Gil-dong, Kangdong-gu, Seoul 134-701, Korea. E-mail: yang1408@hallym.or.kr

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used as a criterion in the ISSM definition of lifelong PE.¹⁻³ However, sIELT has the disadvantage of being intrusive and potentially disruptive of sexual pleasure or spontaneity.^{1,2} In addition, it can be difficult to explain the measurement process to patients. As a result, estimated IELT (eIELT) is more commonly used in the assessment of PE status in clinical practice.

Several professional organizations, including the ISSM, the American Psychiatric Association, and the European Association of Urology, suggest that eIELT is well correlated with sIELT and is an acceptable method to measure IELT in clinical practice.^{1-3,7} However, to our knowledge, there is a lack of clinical evidence supporting the use of eIELT in the definition of lifelong PE as most clinical trials and observational studies have used sIELT instead.^{1,2} Furthermore, few studies have examined the correlation between eIELT and sIELT.

The purpose of our study was to examine the correlation between eIELT and sIELT and to assess the clinical utility of eIELT in identifying men more likely to have lifelong PE.

METHODS

Patients

The baseline characteristics of our patients have been reported previously.⁸ Briefly, 130 healthy men aged 30-70 years with a history of lifelong PE, who met the criteria of both the DSM, fourth edition, text revision and the Premature Ejaculation Diagnostic Tool (PEDT) score of ≥ 11 , were eligible.^{9,10} This ensured that the patients in our study met the criteria for the ISSM and DSM-5 definitions for PE, except for the 1-minute IELT cutoff, which was the only objective subset. We included patients with a stable, monogamous, heterosexual relationship with the same partner for at least 6 months.

Exclusion criteria included self-reported sexual dysfunction including an International Index of Erectile Function erectile function domain score < 22 , except for PE. In addition, we excluded men with a mean sexual intercourse frequency of less than once a week, any sexual dysfunction of partner, alcohol or substance abuse, any history of medical or psychiatric illness, and those taking medication known to influence PE status, including selective serotonin reuptake inhibitors, tricyclic antidepressants, tramadol, or phosphodiesterase type 5 inhibitors. Our final cohort included 118 patients who provided written informed consent.

Study Design

Our study was a prospective, observational, multicenter design. Patients were recruited by an advertisement between July 2010 and August 2011 at 5 institutions in Korea. Ethics approval was obtained from the institutional ethics committees of each institution. All patients underwent preliminary assessments including collection of medical and sexual history, physical examination, determination of eIELT, International Index of Erectile Function erectile function domain, PEDT, and the Premature Ejaculation Profile (PEP) questionnaire.^{10,11} During the 1-week study period, patients were requested to engage in sexual intercourse at least twice and to record the time from foreplay to beginning intercourse (FTIT) and sIELT by the partner using a stopwatch.

Main Outcome Measures

The primary end point was the mean difference between eIELT and sIELT. The secondary end point included correlations between eIELT and sIELT and between each IELT and PEP scores. Diagnostic accuracy, sensitivity, and specificity of eIELT were calculated to further assess whether eIELT is used interchangeably with sIELT on the basis of the diagnosis of lifelong PE using a sIELT.

eIELT was determined by asking the patients to estimate the mean duration between penetration and ejaculation. sIELT, which is defined as the time from vaginal penetration to ejaculation in the vagina, was measured by the partner using the stopwatch. FTIT was defined as the time from physical foreplay to beginning intercourse. We assessed the FTIT in the same way as the sIELT measurement. FTIT and sIELT were assessed as the mean duration of sexual intercourse events. Ejaculation before or on vaginal penetration was assigned a sIELT of 0 minutes. Overall sexual act time (OSAT) was calculated as the sum of FTIT and sIELT. A PEP index score, defined as the mean score of the 4 individual items, has been described as a valid and reliable measure of the general severity of PE.¹¹ Lifelong PE was diagnosed using the ISSM definition, including the 1-minute sIELT cutoff.^{1,2}

Statistical Analysis

Our study was designed with an α of 0.05 and β of 0.2, to detect a mean of 0.5 minute and a standard deviation of 1.5 minute difference between eIELT and sIELT, on the basis of previous studies.¹²⁻¹⁵ Consequently, ≥ 73 patients were required for analysis. After 118 patients were included in our study, the power ($1-\beta$) was 94.9%.

Analyses of the differences between eIELT and sIELT were conducted using geometric means with logarithmic transformation because IELT distributions were positively skewed. The geometric mean of IELT has been commonly used in this field.^{16,17} The mean difference between eIELT and sIELT was determined using the paired *t* test. Correlations between continuous variables were assessed using the Pearson correlation coefficient (*r*). A Z test using Fisher transformation was performed to compare *r* between eIELT and sIELT. Receiver operating characteristic–derived areas under the curve were estimated to assess the diagnostic accuracy of eIELT. The receiver operating characteristic curve cutoff value was estimated with the maximum Youden index. In addition, the sensitivity, specificity, positive predictive value, and negative predictive value were calculated. The Statistical Package for Social Sciences (SPSS Inc., Chicago, IL), version 17.0, was used for all analyses. All *P* values were 2 sided, and a *P* $< .05$ was considered significant.

RESULTS

The baseline characteristics of the 118 included patients are described in [Table 1](#). The median PEDT score was 15.0 (interquartile range [IQR] = 12.0-17.3). All patients engaged in foreplay before intercourse. The geometric mean and median sIELT were 2.8 ± 0.4 minutes and 2.7 minutes (IQR = 1.7-5.0 minutes), respectively. The geometric mean and median eIELT were 3.3 ± 0.5 minutes and 3.0 minutes (IQR = 2.0-5.0 minutes), respectively.

eIELT correlated moderately well with sIELT ($r = 0.512$; $P < .001$; [Fig. 1](#)). However, eIELT was overestimated by a mean of 1.2 minutes and a median of

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