Objective: To define the range of normal for a standardized 60-second hair count in men without alopecia.

Design: Convenience sample.

Setting: Hospital-based practice.

Participants: The study included 60 healthy men (age range, 20-60 years) without evidence of alopecia.

Main Outcome Measure: Range of normal for a standardized 60-second hair count.

Results: Among the 20- through 40-year-old men, the shedding range was 0 to 78 hairs, with a mean of 10.2 hairs. Among the 41- through 60-year-old men, the range was 0-43 hairs, with a mean of 10.3 hairs. Low intrapatient variability for hair counts was found in both age groups, indicating consistent results on consecutive days for all participants. When repeated 6 months later in both age groups, the hair counts did not change much. The hair counts were repeated and verified by a trained investigator, with results similar to those of subject hair counts.

Conclusion: A properly performed 60-second hair count is a simple, practical, and reliable tool for the assessment of hair shedding.

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Currently, there is no widely accepted or standardized method for assessing the number of hairs shed daily. Although the dermatology literature and the media often mention that shedding of approximately 100 hairs a day is normal, that number is questionable. The number 100 is a theoretical, mathematical derivation based on the assumption that the average scalp contains 100,000 hairs, 10% of which are in the telogen phase: 100,000 hairs × 10% telogen hairs = 10,000 telogen hairs; therefore, 10,000 telogen hairs/100 days (average length of telogen phase) = 100 telogen shed hairs per day. Does 100 shed hairs pertain to both men and women? Does shedding remain constant with age? No clinical study or standardized method has validated the number 100.

The daily hair count and wash test are not practical methods for monitoring hair shedding over a 24-hour period. Keeping a daily total count of hairs shed is cumbersome for the patient and may yield inaccurate results because numerous hairs escape detection. The wash test involves washing the patient's hair over a sink with a covered drain 5 days after the last shampoo. The number of washed-out hairs is then counted. Patients may be reluctant to leave their hair unwashed for 5 days. Moreover, there is no currently accepted normal range for this method, with estimates of “normalcy” ranging from 10³ to 250.²,⁶

A more practical method for determining the number of shed hair is the 60-second hair count. Using this technique, Kligman attempted to establish a standard range for the procedure using 24 healthy white men aged 21 to 42 years. He found the average number of shed hairs to be 44 per interval, with a range of 15 to 75 (SD, 18). The small sample population and the lack of detail regarding the study protocol limit the applicability and interpretation of Kligman’s data.

In our study, using the 60-second hair count, we expanded on Kligman's work by determining hair counts in 60 healthy white men ranging in age from 20 through 60 years. By studying a broader age range, we sought to evaluate the normal changes in scalp hair that accompany aging. These changes include a decrease in the duration of anagen (lifespan of the hair), an in-
The average age of subjects in the 2 groups was 27.8 years (n=30; age range, 20-40 years) and 49.4 (n=27; age range, 41-60 years). Three subjects in the 41- through 60-year-old group were unavailable for follow-up. Figure 1 depicts the means of the individual hair counts over a 6-day period (initial counts plus subsequent 6-month counts) for subjects aged 20 through 40 years. Subjects shed an average of 10.2 hairs (range, 0-78 hairs). There was minimal intrapatient variability in hair counts over the 6-month period, indicating that the subjects were consistent in hair counts (data not shown). Figure 2 shows the means of the individual hair counts for subjects aged 41 through 60 years. The patients shed an average of 10.3 hairs (range, 0-43 hairs). As was the case with the younger age group, intrapatient daily variability in hair counts was low. Investigator hair counts were similar to subject hair counts, with an average shed count of 8.9 hairs (range, 0-64 hairs) for subjects aged 20 through 40 and 10.6 hairs (range, 0-52 hairs) for subjects aged 41 through 60 years. For both age groups, the data on the subsequent hair counts, performed 6 months later, including subject and investigator hair counts, are included in the data reported above (reflected in the figures as counts over a 6-day period).

METHODS

This study establishes a normal range for the 60-second hair count in men aged 20 through 60 years who have clinically normal scalps. Our hair counts of approximately 10 for both age groups are lower than the average hair count of 44 predicted by Kligman.7 We suspect that this difference is most likely attributable to hair count technique, which was not clearly defined by Kligman. Another factor that may have contributed to lower than expected values for numbers of hair shed may be
the study’s requirement of daily shampoos on the 3 days immediately preceding the hair counts. It is possible that this requirement represents an artifically high frequency of hair washing, which, in turn, may cause the number of hairs shed on subsequent days to be lower than that which would be expected with less frequent shampooing.

Ranges and mean values for hair shedding did not differ significantly between the younger (20–40 years old) and older (41–60 years old) age groups (mean P = 0.60; range P = .24). Although not statistically significant, the slightly lower overall range that was seen in the older population may indeed more closely represent a normal range for hair shedding, as older men without any evidence of alopecia are presumably less likely to progress to significant hair loss than their younger counterparts. It is interesting to note the rather high value of the upper end of normal in the younger age group; the question arises as to whether evaluating the participants who fall within the higher range beyond the 6 months of this study would yield similar results or whether these individuals are in the early stages of telogen effluvium or androgenetic alopecia.

Studies have suggested that involutional alopecia, the natural thinning of hair with age, does not appear to be associated with increased shedding of hairs. The number of scalp hairs decreases (25–35 hairs vs the normal 35–45 hairs in 4-mm punch biopsy specimens), but there is a normal proportion of telogen hairs (approximately 20%). To answer this question with certainty, subjects would need to be followed up over time using the 60-second hair count.

As can be seen in Figures 1 and 2, there is a broad range for normal values of hair shedding during a 60-second hair count. Normal percentages of telogen hairs may range considerably (0%–25%, with an average of 13% in one study and an average of 6% in another study). This variability may account for the range of normal values of hair shedding during a 60-second timed hair count. Low intrapatient variability in hair counts, as well as consistency between investigator and subject hair counts, make the 60-second hair count an objective and practical tool for monitoring hair shedding. Low intrapatient variability indicates easily reproducible results on consecutive days. If a patient presents with an acute telogen effluvium, the dermatologist can instruct him or her regarding the technique and interpretation of data: Wasko, Mauger, Sperling, and Miller. Acquisition of data: Wasko and Mauger. Analysis and interpretation of data: Wasko, Mauger, and Miller. Drafting of the manuscript: Wasko, Mauger, and Miller. Critical revision of the manuscript for important intellectual content: Wasko, Mackley, Sperling, and Miller. Statistical analysis: Mauger. Administrative, technical, and material support: Wasko. Study supervision: Miller.

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Author Contributions: Dr Miller had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Study concept and design: Wasko, Mackley, Sperling, and Miller. Acquisition of data: Wasko and Mauger. Analysis and interpretation of data: Wasko, Mauger, and Miller. Drafting of the manuscript: Wasko, Mauger, and Miller. Critical revision of the manuscript for important intellectual content: Wasko, Mackley, Sperling, and Miller. Statistical analysis: Mauger. Administrative, technical, and material support: Wasko. Study supervision: Miller.

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