NovoBliss Research Sets New Standards in Dermatological Science – Hair Care Products Evaluation

Advancing Hair and Scalp Health Assessments with Standardized Methodologies

NovoBliss Research is transforming dermatological evaluations by developing and standardizing advanced methodologies for comprehensive hair and scalp assessments. These include precise measurements for hair regrowth, hair length, hair keratin levels, and tensile strength, along with Norwood-Hamilton & Ludwig scoring, inter-evaluator variability, new hair count, visual documentation of the head crown area. Scalp health assessments are also integrated to provide a holistic understanding.

Our methodologies are designed for multicentric clinic research implementation, enabling robust and diverse data collection across varied geographical populations. By establishing new benchmarks for accuracy, consistency, and reliability in clinical research, NovoBliss Research ensures these innovations are adaptable and dependable across global dermatological studies.

Keratin Level Assessment: A Comprehensive Approach

### Quantitative Hair Keratin Analysis:

Hair keratin levels are precisely measured using the Bradford Assay, ensuring accurate evaluation of keratin concentration in hair strands before and after treatment.

Figure 1: Hair Keratin Extracted from Hair Strands

Quantitative Scalp Keratin Analysis:

Scalp keratin levels are evaluated using phototrichogram by CASLiteNova, which captures detailed scalp images to analyze optical density & other keratin-related features. This technology enables consistent and precise measurement, providing critical insights into scalp health.
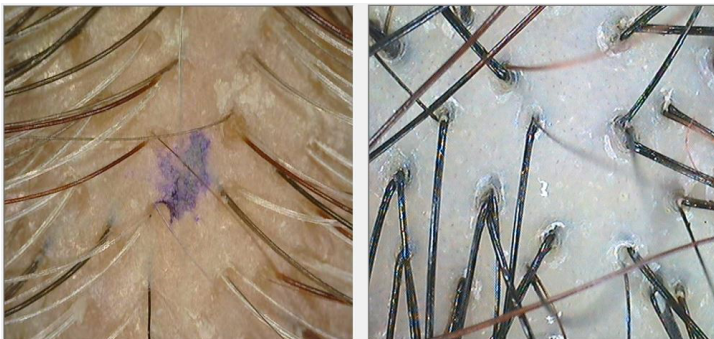
Figure 2: Scalp Keratin Measurement Using CASLite Nova

Hair Regrowth Evaluation:

Standardized Site Marking for Consistent Results: Hair regrowth assessments utilize standardized site marking with a calibrated tape and skin marker. A mark is placed near the eye area, with a perpendicular line drawn on the bald scalp. Images are captured using CASLite Nova to focus on the target area, ensuring accuracy and repeatability in evaluations.


Figure 3: Site Marking in Male and Female Subjects

Hair Length Measurement:

Precision with Calibrated Tools: Hair length is measured using a calibrated ruler & skin marker. A designated spot is marked 15 cm from the nose

toward the vertex, and hair strands are extended downward for measurement. This precise method ensures consistency in data collection for clinical studies.
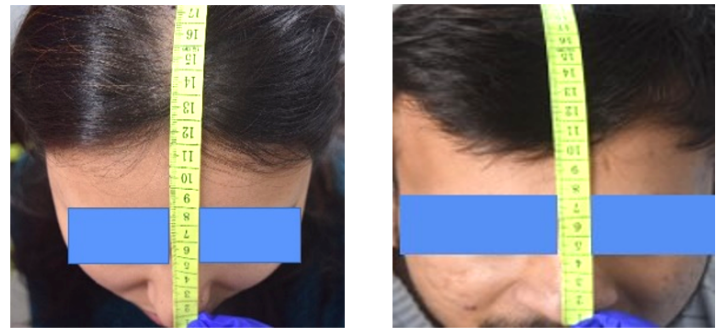
Figure 4: Hair Length Measurement Using Calibrated Tools

Visual Documentation:

Comprehensive Hair Distribution Analysis Standardized imaging of the global head crown at multiple angles (0°, 45°, 90°) provides a clear view of hair distribution and alopecia severity. A tripod standardized marking ensures consistent camera positioning, while twin flashes offer uniform lighting for reliable assessments.


0° Angle   *45° Angle*   *90° Angle*
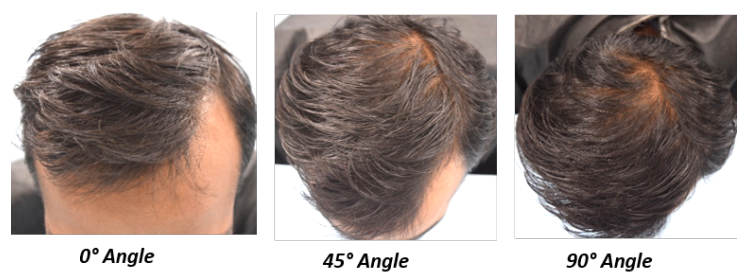
Figure 5: Global Head Crown Imaging at Different Angles

New Hair Count | Baby Hair count:

Phototrichogram Analysis for Hair Counts.
Hair counts in androgenic alopecia-affected areas are analyzed using CASLite Nova phototrichogram, with additional new hair counts evaluated through Image-Pro software for image analysis and count the number of new hair | baby hair with comprehensive assessment.
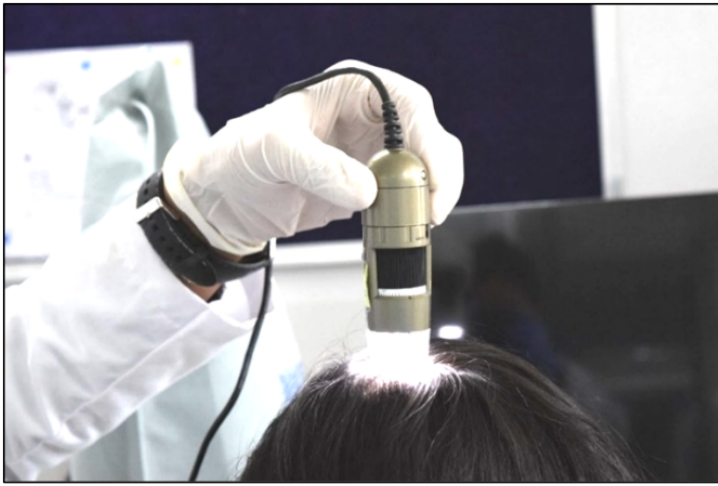
Figure 6: Hair Count Analysis Using CASLite Nova

Hair Tensile Strength:

Hair tensile strength is assessed using the TESTRONIX tensile tester, where single hair strand sample is fixed, and a pulling force is applied until breakage. Tensile strength is calculated based on the force and the hair's cross-sectional area, with results expressed in megapascals (MPa). This method provides precise and uniform tensile strength assessment.

Figure 7: Hair Tensile Strength Measured with TESTRONIX

Inter-Evaluator Reliability and Variability Assessment

Inter-evaluator reliability is assessed by comparing single readings from 25 subjects, evaluated by seven trained dermatologists. Variability is examined by including a dermatologist, a study physician, and five dermatologist-trained evaluators, who scored hair loss using the Norwood-Hamilton classification for males and Ludwig classification for females. All evaluators underwent a comprehensive training program by the leading practicing dermatologist to ensure consistency in assessments.

Implications for Clinical Research and Future Studies

NovoBliss Research has developed a standardized, comprehensive approach for evaluating hair health in Androgenetic Alopecia (AGA) and normal healthy scalp. By offering precise and reliable methodologies to assess keratin levels, hair regrowth, tensile strength, dermatology scoring and hair length, NovoBliss sets new benchmarks in dermatological research. These tools not only ensure consistent clinical evaluations but also advance the efficacy and reliability of outcomes data from treatments in AGA studies.

NovoBliss Research®: Pioneering Clinical Research Across Industries

Headquartered in Ahmedabad, India, NovoBliss Research® is a leading Contract Research Organization (CRO) specializing in scientifically validated clinical safety and efficacy studies. With expertise spanning diverse industries—including Nutraceuticals, Natural Health Products, Dietary Supplements, Food products, OTC products, Ayurvedic products, Dermatology, Cosmetics, and Personal Care, Consumer Care items—NovoBliss ensures the highest standards of safety, quality, and compliance in clinical research.

We excel in Real World Evidence Studies, Safety and Efficacy claims substantiation, ensuring adherence to regulations. Founded by Dr. Nayan Patel and Dr. Maheshvari Patel, our commitment to ethical standards and global clinical research advancement drives us.

Access NovoBliss Research by clicking on this link **www.novobliss.in**

Access full article for Method Development and Process Validation in Dermatology:

Here is the hyperlink to the site:

Validation and Standardization of Test Methods and Evaluators for Testing of Hair Care Range of Products

A Novel Exploratory Approach of Validation and Standardization for Test Methods and Evaluators to Conduct Safety and Efficacy Clinical Testing of Hair Growth Products

In-vitro Standardization and Validation Study: Instrumental and Expert Assessment for Evaluating Efficacy of Hair Aesthetics and Sensory Attributes (Shine, Frizz, Split-End Repair, Tensile Strength, and Moisture Content).