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EVALUATION OF MODERN PERMANENT MAKEUP METHODS IN ACHIEVING NATURAL-LOOKING FACIAL AESTHETIC ENHANCEMENT

Summary. *Background: The central aesthetic goal of permanent makeup (PMU) is the simulation of natural facial enhancement - results that appear inherent to the individual rather than applied. Yet the techniques most widely practiced in the field produce healed outcomes that routinely fall short of this standard: over-saturated, tonally shifted, gradient-absent results that read as artificial. Objective: This paper evaluates the capacity of modern PMU methods to achieve natural-looking facial aesthetic enhancement, with specific focus on permanent lip makeup. It examines the structural features of conventional techniques that limit naturalistic outcomes and presents an evidence-based assessment of how a layered, parameter-governed methodology addresses each limitation. Methods: The analysis draws on peer-reviewed literature in dermatology, aesthetic surgery, and pigment science, integrated with clinical methodology developed by the author through more than eleven years of specialized practice and over 2,000 lip procedures. Results: Natural-looking outcomes in permanent lip makeup are determined by four primary*

variables: tonal accuracy, gradient quality, border softness, and skin-tone adaptability. Conventional single-pass techniques manage none of these systematically. Conclusion: Achieving natural-looking PMU results requires a methodology that addresses each determinant of naturalism through structured, parameter-defined clinical protocols.

Keywords: *permanent makeup, natural aesthetics, lip PMU, facial enhancement, pigment retention, gradient technique, aesthetic outcomes, micropigmentation.*

Introduction. The concept of “natural-looking” is the most frequently cited aesthetic goal in client consultations for permanent makeup, and yet it is the least operationalized concept in the field’s technical literature. Clients who describe a desire for results that appear as their own, enhanced but not visibly treated, are articulating a standard that depends on several specific technical variables: that the healed color accurately reflects the intended shade rather than shifting toward an unintended tone; that the transition from pigmented to unpigmented tissue is gradual and soft rather than abrupt; that the density of implanted pigment is modulated across the treatment zone to simulate natural variation; and that the overall result is congruent with the client’s individual skin tone, facial anatomy, and natural pigmentation. Conventional PMU approaches do not address these variables systematically, and the gap between the natural-looking standard clients articulate and the results that standard techniques produce is a well-documented feature of the field’s complication literature [10; 19].

The aesthetic stakes of this gap extend beyond client satisfaction. Singh et al. establish through an empirical aesthetic database study that lip definition, symmetry, and tonal quality are among the highest-weighted contributors to perceived facial attractiveness, situating permanent lip makeup among the most aesthetically

consequential procedures in the cosmetic domain [23]. Ebrahimzadeh Ardakani et al. demonstrate that outcomes of minor facial cosmetic procedures have measurable impact on self-esteem and quality of life, with unsatisfactory results producing statistically significant negative effects [7]. The combination of high aesthetic significance and significant psychosocial impact makes the question of how PMU techniques achieve naturalistic outcomes a matter of clinical importance, not merely technical preference.

The historical trajectory of permanent makeup practice offers limited guidance on this question. Zhitny and Iftekhar trace the origins of cosmetic tattooing to ancient practice traditions, noting that aesthetic standards and technical capabilities have evolved substantially over centuries [27]. The contemporary field, however, has developed in a context of rapid commercialization and limited academic oversight: technique proliferation has outpaced technical standardization, and the “natural-looking” standard has remained an aspirational description rather than a defined clinical target [14].

This paper addresses the naturalism gap through a structured evaluation of modern permanent lip makeup techniques against an explicit set of naturalism criteria. Drawing on the author’s “From Nude to Lipstick” methodology [26], developed through more than eleven years of clinical specialization and over 2,000 lip procedures, and situating it within the relevant peer-reviewed literature, the paper identifies the structural features of technique that determine naturalistic outcomes and evaluates the degree to which contemporary PMU methods succeed in producing them. The aim is to establish a framework for evaluating PMU naturalism that is both clinically grounded and technically actionable.

Literature Review. *Defining Natural-Looking Outcomes in PMU: An Absent Standard.* A foundational observation of this analysis is that the concept of “natural-looking” outcomes in PMU has not been formally defined in the peer-reviewed

literature. Ghafari et al., in the most comprehensive recent review of PMU technique and complications, describe outcome categories in terms of technique type, lip blush, ombré, microblading, rather than aesthetic outcome criteria [10]. Kerure et al. similarly review micropigmentation without establishing a clinical standard for naturalistic results [14]. The absence of a shared definitional framework means that practitioners and researchers lack agreed-upon criteria for evaluating whether a given technique’s outcomes qualify as natural-looking, a gap that this paper addresses directly.

Singh et al. offer the most relevant empirical contribution to defining naturalistic facial aesthetics, establishing through a database study of aesthetic attribute correlations that lip symmetry, definition clarity, and color harmony are the strongest predictors of perceived attractiveness [23]. These findings provide an implicit framework for naturalism: a lip PMU result that preserves or enhances symmetry, produces a clearly but softly defined border, and achieves color harmony with the client’s individual complexion reads as natural; one that produces asymmetry, a hard border, or a tonally incongruent color does not. Kim and Kwon document that consumer demand for PMU procedures has been substantially driven by a desire for effortless, maintenance-free natural appearance, reinforcing that naturalism is not a niche preference but the dominant aesthetic expectation in the current market [15].

Technique Variables That Determine Naturalistic Outcomes. The dermatological and PMU technique literature identifies four primary variables that determine the naturalistic quality of healed permanent lip makeup outcomes: tonal accuracy, gradient quality, border softness, and skin-tone adaptability. Each is independently determinative, and conventional technique approaches manage none of them systematically.

Tonal accuracy refers to the correspondence between the intended healed color and the actual healed result. Andreou et al. document that PMU pigment color shifts during healing through immune-mediated encapsulation and UV-induced photodegradation, processes that disproportionately affect warm-toned pigments on cool-undertoned tissue [1]. Colboc et al. establish at the chemical level that the dermal microenvironment actively modifies implanted pigment, with the optical filtering effect of melanin-rich tissue producing the cool tonal shifts that are among the most common sources of client dissatisfaction [5]. Rigali et al. demonstrate that the specific pigment classes used in permanent makeup have differential photostability profiles, with organic pigments prone to color shifts that iron-oxide formulations resist [21].

Gradient quality refers to the smoothness and naturalness of the tonal transition from the saturated lip center to the transparent vermilion border. In living lips, this transition is anatomically inherent: the pigmented mucosa of the lip body grades imperceptibly into the thinner, more translucent tissue of the vermilion border. Replicating this natural gradient in PMU requires deliberate technique architecture, as Hvas and Serup establish, needle selection, voltage, hand speed, and direction of movement each independently influence the sharpness or softness of tonal transitions in cosmetic tattooing [12]. Pachten et al. document the mechanical properties of different needle configurations, confirming that round liner needles produce softer, more diffuse pigment deposition than round shaders or magnums, making them the appropriate choice for border zone application where gradient softness is the primary technical requirement [18].

Border softness refers specifically to the definition quality of the vermilion border, the line between the lip and surrounding skin. Marwah et al. establish that penetration depth and lateral pigment spread are determined by applied pressure and needle geometry, with over-penetration at the border producing the migration and

blur that is among the most visually disruptive failures of lip PMU naturalism [16]. Tomita et al. document border-related complications in cosmetic tattoo procedures for the face, noting that technique-anatomy mismatch at high-visibility zones is a primary mechanism of outcome failure [25].

Skin-tone adaptability refers to the technique’s capacity to produce consistently naturalistic results across the full range of client phototypes and undertones. Harvey et al. and Cohen et al. argue that clinical tools for skin color assessment must extend beyond broad Fitzpatrick categories to capture undertone variability, which is the most clinically significant pigmentary variable for PMU outcome prediction [4; 11]. Farré et al. establish the genetic basis for phototype variability, underscoring that skin tone is not a simple categorical variable but a continuous biological characteristic with predictable implications for dermal pigment behavior [8].

The Psychosocial Dimension of Naturalism. The clinical importance of naturalistic PMU outcomes is not confined to aesthetics; it has a documented psychosocial dimension that elevates its status as a clinical concern. Ebrahimzadeh Ardakani et al. demonstrate that satisfaction with minor facial cosmetic procedures is directly linked to self-esteem and social functioning, with unsatisfactory results producing measurable negative impact across both domains [7]. Pióro et al. extend this finding to the removal context, demonstrating through a WHOQOL-BREF-based study that the persistence of unsatisfactory PMU, and the experience of seeking its removal produces quality-of-life decrements comparable to those associated with more significant medical conditions [19].

These findings situate the naturalism standard not as a cosmetic preference but as a clinical outcome measure. A PMU result that fails the naturalism test, one that is visibly artificial, tonally incongruent, or technically imprecise, is not merely an aesthetic disappointment; it is a clinical failure with measurable patient

consequences. Pióro et al. establish that pigment density and composition are primary predictors of removal difficulty, creating a direct clinical incentive for naturalistic implantation parameters: the low-density, zone-differentiated approach that produces the most natural healed result is also the approach that produces the most correctable one if revision is needed [20].

Complications as Evidence of Naturalism Failure. The complication literature provides a further line of evidence for the clinical significance of naturalism failure. Dodig et al. document the full spectrum of adverse reactions in cosmetic tattooing, distinguishing complications attributable to pigment chemistry from those attributable to technique variables [6]. Ibraheim et al. and Suleman et al. report granulomatous reactions in PMU clients, establishing high implantation density as a primary risk factor, directly linking the over-saturation that produces non-natural results with an elevated complication profile [13, 24]. Chalarca-Cañas et al. provide a histopathological analysis of tattoo-related complications, confirming that pigment density and depth are the primary tissue-level determinants of inflammatory response [3].

Argobi et al. document safety and awareness deficits among PMU practitioners [2], and Shishak and Kuthial identify inadequate training as the primary predictor of microblading complications, a finding applicable to lip PMU, where the relationship between technique precision and clinical outcome is equally direct [22]. Geisler et al. confirm that laser removal of PMU is substantially more complex for high-density implantations and certain pigment classes, establishing a technical-correctability dimension to naturalism that reinforces the clinical value of low-density, parameter-governed application from the outset [9].

Methodology. The evaluative framework of this paper is built upon two integrated components. The first is the author’s clinical methodology, “From Nude to Lipstick” [26], which provides the primary technical comparator for the

naturalism evaluation. Developed through more than eleven years of specialized permanent lip makeup practice encompassing over 2,000 procedures, this methodology emerged from the author’s direct clinical observation of the naturalism failures produced by conventional PMU approaches and from the iterative development of technique architecture specifically designed to address them.

Four naturalism criteria, tonal accuracy, gradient quality, border softness, and skin-tone adaptability, were identified by the author as the primary determinants of whether a healed lip PMU result reads as natural or artificial. These criteria were derived from clinical observation across a large and diverse client population and are validated by the dermatological and aesthetic literature reviewed in Section 2. Each criterion maps onto a specific structural component of the author’s methodology: tonal accuracy is addressed by the neutralization protocol; gradient quality by the three-layer implantation architecture and formalized gradient construction layer; border softness by the anatomy-specific technique parameters for the vermilion zone; and skin-tone adaptability by the phototype-stratified neutralization framework.

The peer-reviewed literature serves as the external validation framework for this analysis. Published findings on pigment chemistry, tissue-anatomy interaction, and complication profiles are examined for their correspondence with the naturalism criteria identified by the author and with the clinical principles embedded in the methodology. The five common failure modes identified in the Findings section (Section 4) were derived from the author’s clinical practice and are cross-referenced against the complication and outcome literature to establish their generalizability beyond the author’s own caseload. The comparative assessment presented in Table 1 draws on the author’s direct technical knowledge of each technique category, corroborated by the technique descriptions and outcome data available in the published literature.

Results. *Comparative Naturalism Assessment Across PMU Techniques.*

Table 1 presents a comparative assessment of four contemporary permanent lip makeup technique categories against the four naturalism criteria. The assessment draws on the technical descriptions and outcome data available in the published literature and on the author’s clinical evaluation of each technique category.

Table 1

Comparative Naturalism Assessment of Contemporary Permanent Lip Makeup Techniques

Technique	Border Softness	Tonal Accuracy (healed)	Gradient Quality	Skin-Tone Adaptability	Overall Naturalism
Standard Lip Blush	Low–Moderate	Variable (cool shift common)	Minimal / absent	Poor (FP IV–VI)	★★☆☆☆
Ombre / Aquarelle	Moderate	Moderate (undertone-dependent)	Moderate (single-pass)	Moderate (FP I–III best)	★★★★☆
Full-saturation (traditional)	Low (hard border typical)	High initial / fades dense	Absent	Poor across all FP	★★☆☆☆
From Nude to Lipstick (layered)	High (1–2 mm sheer zone)	High (neutralization protocol)	High (formalized 3-layer)	High (FP I–VI protocol-guided)	★★★★★

Source: Ratings reflect healed outcome quality across the four naturalism criteria. FP = Fitzpatrick phototype. Star ratings are qualitative assessments based on published technique descriptions and clinical evaluation. “From Nude to Lipstick” ratings based on Vasylchenko [26]

The comparative assessment demonstrates a clear performance gradient: standard lip blush and traditional full-saturation approaches consistently produce the least naturalistic results across all four criteria, while the layered methodology achieves high performance across all. The ombre/aquarelle category represents an intermediate approach that improves gradient quality over standard blush but retains

the fundamental limitations of single-pass implantation, particularly for darker phototypes where undertone-related tonal shift remains unmanaged.

Naturalism Failure Modes and Their Structural Origins. Table 2 presents the five most clinically prevalent naturalism failure modes identified through the author’s clinical practice and corroborated by the literature, with their structural causes in conventional technique and the specific methodological responses developed to address them.

Table 2

Naturalism Failure Modes, Structural Causes, and Methodological Responses

Failure Mode	Clinical Presentation	Structural Cause in Conventional Technique	Methodological Response [26]
Tonal shift	Healed color reads blue, gray, or purple	No undertone assessment; warm pigment optically neutralized by cool dermal melanin	Three-step neutralization protocol before target shade
Over-saturation	Dense, opaque, artificial appearance	Single-pass high-voltage application; no density modulation by zone	Three-layer implantation with zone-specific density targets
Border blur / migration	Undefined vermilion edge; pigment spread	Central-zone parameters applied to thin border tissue; over-penetration	1003RL at 5.5–6.5V for border zone; 1–2 mm sheer gradient specification
Gradient absence	Flat, uniform saturation; non-dimensional result	No gradient construction protocol; intuitive or absent transition zone	Formalized gradient construction layer: directional, zone-specific, parameter-defined
Asymmetry	Unequal saturation or border definition bilaterally	No systematic sequence or execution criteria per zone	Nine-step non-negotiable procedural sequence with objective execution criteria

Source: Failure modes identified from clinical practice [26] and corroborated by Ghafari et al., Chalarca-Cañas et al., Dodig et al., and Pióro et al. [3; 6; 10; 19]

The five failure modes documented in Table 2 share a common structural origin: they are each produced by the absence of a specific clinical protocol in conventional technique, not by technical error within a defined protocol. This distinction is clinically important: it means that the naturalism failures of conventional PMU are not correctable through improved execution of the same technique, but require a fundamentally different technique architecture (See Figure 1).

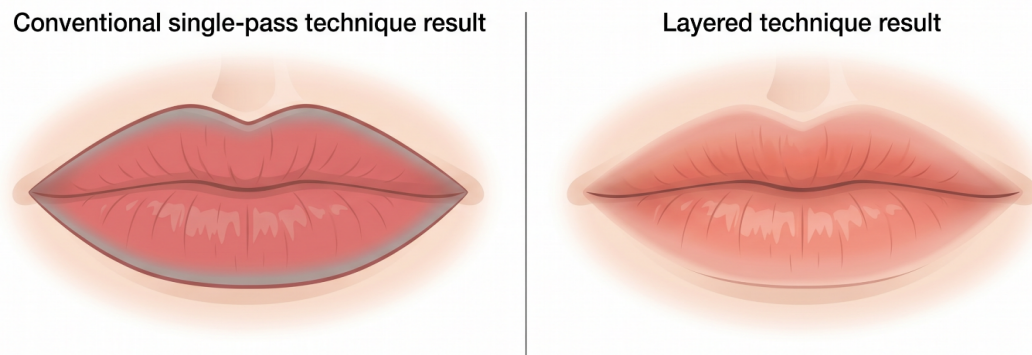


Fig. 1. Clinical Lip Technique Comparison Diagram

Source: author's development

Discussion. *Naturalism as a Clinical Standard, Not an Aesthetic Preference.* The central argument of this paper is that natural-looking outcomes in permanent lip makeup are not an aesthetic preference to be balanced against other considerations, they are the primary clinical standard against which technique efficacy should be evaluated. This argument is supported by the psychosocial evidence reviewed in Section 2: the documented negative impact of non-natural PMU outcomes on self-esteem [7], quality of life [19], and the clinical complexity of correction [9] establishes that naturalism failure has consequences extending well beyond aesthetic

disappointment. A technique that reliably produces non-natural results is a clinically inadequate technique, regardless of its technical simplicity or widespread adoption.

The peer-reviewed literature has not previously articulated this standard explicitly, naturalism has been an implicit aspiration in PMU rather than a defined clinical outcome measure. The four-criterion framework proposed in this paper (tonal accuracy, gradient quality, border softness, skin-tone adaptability) represents an attempt to make this standard explicit and evaluable, translating the aesthetic concept of naturalism into clinical criteria that can be operationalized as technique parameters, assessed against defined failure modes, and transmitted through structured professional training.

Why Gradient Construction Is Central to Naturalism. Of the four naturalism criteria, gradient quality is the most technically distinctive, and the most consistently absent in conventional PMU approaches. A natural lip has no hard edges: the transition from the pigmented body of the lip to the surrounding skin occurs gradually, through a zone of progressively decreasing pigment density that is anatomically inherent to the vermilion border. Replicating this transition in PMU is not a matter of artistic skill alone; it requires a deliberate, parameter-defined technique protocol.

The author’s formalized gradient construction layer using 1205RS for center-zone directional depth, transitioning to 1003RL for the border zone at reduced voltage and increased hand speed, with all movement directed from the saturated zone outward toward the sheer edge, addresses this requirement precisely [26]. The non-intuitive aspect of this protocol is the directional constraint: hand movement must always proceed from the saturated zone toward the transparent edge, never in reverse. This constraint is not aesthetic preference; it reflects the mechanical reality that reverse movement (from edge toward center) deposits pigment at the border

before the gradient has been established, producing the abrupt tonal break that distinguishes an artificial from a natural result.

Hvas and Serup establish that hand speed and direction independently influence pigment distribution in cosmetic tattooing, supporting the technical rationale for the directional parameter [12]. Pachten et al. document that needle configuration determines the sharpness and diffusion radius of pigment deposition, confirming that the round liner’s smaller, more precise deposition profile is the appropriate tool for the border zone’s naturalism requirements [18]. Together, these findings provide the mechanistic basis for the gradient construction protocol’s specific parameters.

The Saturation Classification System and Naturalism Across Outcome Levels. A distinctive feature of the author’s methodology is the four-level saturation classification system (Bare Veil, Silk Nude, Velvet Tint, Signature Lip), which establishes that naturalism is not synonymous with minimal intervention. A Signature Lip result, full-saturation, lipstick-equivalent coverage, is fully compatible with naturalistic outcomes if the healed color is tonally accurate, the gradient is properly constructed, and the border is softly defined. Conversely, a Bare Veil result, near-imperceptible second-skin effect, fails the naturalism standard if the healed color has shifted toward an unintended tone or the border has migrated.

This distinction has important clinical implications: it means that the naturalism standard is procedure-type-neutral. Whether a client desires the most minimal enhancement or the fullest lipstick effect, the same four criteria apply, and the same technique architecture, layered implantation, neutralization protocol, anatomy-specific parameters, gradient formalization is required to meet them. This universality is what distinguishes a systematic methodology from a collection of technique options: the methodology’s structural components apply across all outcome levels, not only in specific use cases [26].

The Contribution of Reproducibility to Naturalism at Scale. The naturalism standard is not only a single-procedure concern; it is a field-level concern with implications for how PMU practice is trained and evaluated. Argobi et al. identify training adequacy as a primary predictor of PMU outcome quality [2], and Shishak and Kuthial establish that inadequate training is the principal mechanism of microblading complications [22]. These findings apply with equal force to lip PMU: a practitioner who has not been explicitly trained in gradient construction, neutralization protocols, and anatomy-specific technique differentiation cannot be expected to achieve consistently naturalistic results, regardless of procedural volume.

The transmissibility of technique its capacity to be taught, assessed, and replicated across practitioners - is therefore itself a naturalism-relevant variable. Intuition-based gradient construction cannot be standardized; parameter-defined gradient construction can. The difference between these approaches determines not only whether a single practitioner’s results are natural-looking, but whether the field as a whole can reliably produce them. As Kim and Kwon (2023) document, consumer demand for natural-looking PMU continues to grow in the post-pandemic aesthetic market, making the field-level implications of reproducible technique increasingly significant [15].

Implications for Clinical Practice and Professional Standards. The evaluation framework presented in this paper, four naturalism criteria, five failure modes, and a structured methodology that addresses each, has direct implications for how permanent lip makeup is practiced, taught, and assessed as a professional discipline. At the practice level, the framework provides a pre-procedure evaluation tool: assessing each client against the four naturalism criteria before beginning the procedure allows the practitioner to identify which specific risks (tonal shift, gradient failure, border migration) are most salient for that client’s individual

phototype and anatomy, and to select the appropriate protocol components accordingly (See Figure 2).

At the professional standards level, the framework argues for the adoption of explicit naturalism criteria as evaluative benchmarks for PMU training programs, certification examinations, and competition judging criteria (See Figure 3). The author’s invitations to serve as a judge at international PMU competitions—including the PMU Skills USA Winter Online Tournament and the TB Championship—reflect the field’s growing recognition that expert technical evaluation requires precisely this kind of structured, criterion-based assessment framework, as opposed to purely subjective aesthetic judgment.

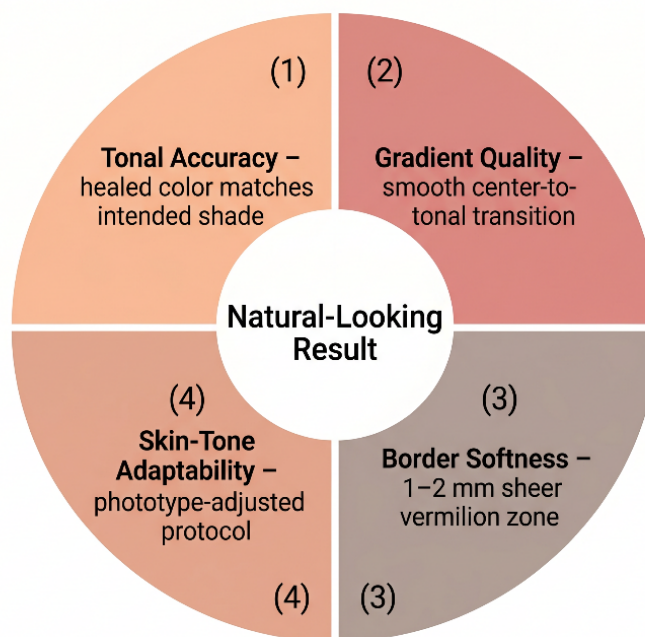


Fig. 2. Naturalism Criteria for Permanent Lip Makeup Infographic

Source: author's development

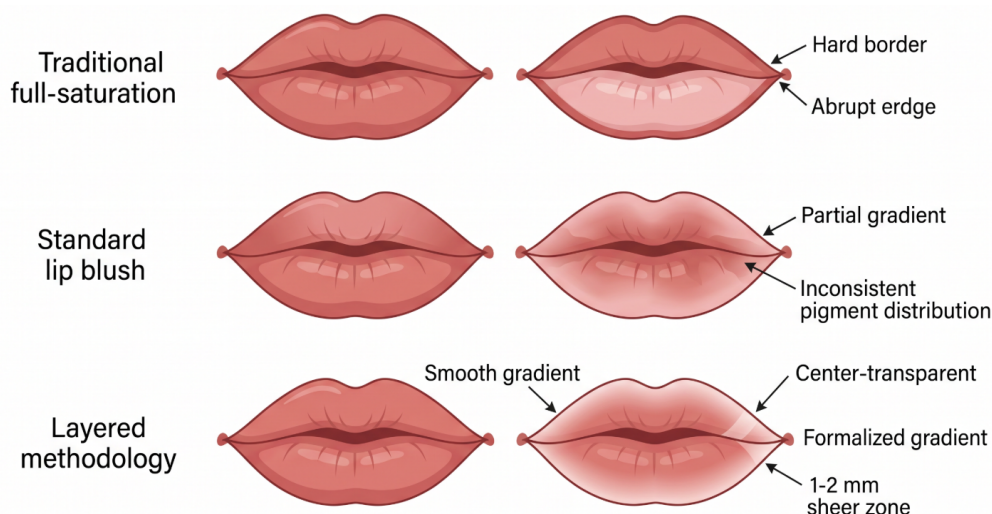


Fig. 3. Clinical Lip Gradient Techniques Comparison Diagram

Source: author's development

Conclusions. This paper has established that natural-looking outcomes in permanent lip makeup are determined by four primary variables tonal accuracy, gradient quality, border softness, and skin-tone adaptability and that conventional PMU techniques fail to manage any of them systematically. The structural origins of naturalism failure are not incidental errors but predictable consequences of technique architectures that lack the specific clinical protocols required to address each variable: no undertone assessment, no layered implantation logic, no formalized gradient construction, no anatomy-specific parameter differentiation.

The author’s “From Nude to Lipstick” methodology addresses each of these structural deficits through deliberate design. Its components neutralization protocol, three-layer implantation architecture, formalized gradient construction, anatomy-specific technique parameters, and four-level saturation classification together constitute a framework in which naturalistic outcomes are achievable as a reproducible, parameter-governed clinical standard rather than an aspirational ideal.

The broader implication of this analysis is that the permanent makeup field requires explicit naturalism criteria as clinical standards defined, evaluable, and transmissible through structured training. The psychosocial evidence reviewed in this paper [7; 19] establishes that naturalism failure is a clinical failure with measurable patient consequences. The adoption of systematic, naturalism-oriented technique frameworks is therefore not merely a quality-of-practice concern but an ethical imperative for a field whose primary promise to clients is enhancement that looks like their own.

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