

Dermatologic PRP Application	PRP Protocol	Details	Outcome
<b>Hair Restoration</b>			
Androgenic alopecia	PRP injections alone, with dalteparin and protamine microparticles	PRP administered every 2-3 weeks for 12 weeks; hair shaft diameters measured	Both PRP alone and PRP with dalteparin had increases in mean hair numbers and significant increases in collagen, fibroblasts, and angiogenesis around hair follicles when compared to control group. PRP with dalteparin significantly increased hair diameter. <sup>3,11</sup>
	PRP injections with progesterone	PRP administered every 4 weeks for 24 weeks, then every 8-12 weeks indefinitely	PRP administered with progesterone inhibits 5-alpha reductase, preventing the conversion of testosterone to dihydrotestosterone (DHT). DHT damages hair follicles, contributing to genetic hair loss. Progesterone inhibits 5-alpha reductase and DHT, allowing hair growth to recover.
	PRP injections with CD34+ cells	PRP with CD34+ cells injected every 3 months	An increase in hair count, thickness, density, and cosmetic appearance. <sup>2,12</sup>
<b>Skin Rejuvenation</b>			
Acne scars	L-PRP injections or topical application after fractional ablative CO <sub>2</sub> laser	L-PRP administered via injection or topical application following fractional ablative CO <sub>2</sub> laser treatments for acne scars	L-PRP administered topically and intradermally post fractional ablative CO <sub>2</sub> laser treatments both showed significant improvement in clinical appearance or acne scars. The duration of erythema and edema was also reduced. <sup>3,14,16</sup>
	Injected subdermally after subcision to atrophic/indented scars; applied topically with microneedling at 1-1.5 mm depth immediately after laser resurfacing	Microneedling with PRP immediately post-resurfacing; can be applied topically daily for 7-14 days after aggressive laser resurfacing	Improved collagen production in scars and overall enhanced outcomes; decreased redness, pain, and swelling post-treatment; improved healing times.
<b>Dermal Augmentation</b>			
Facial rhytides	PRP injections infraorbitally, as well as facial, neck regions, and nasolabial folds	Split-face PRP and saline injections for comparison	PRP has been noted to significantly improve wrinkles and skin tone through stimulated neocollagenesis and angiogenesis. <sup>3</sup>
<b>Combination Therapies</b>			
Hyaluronic acid fillers	Combining PRP with hyaluronic acid fillers and dermal augmentation agents		Hyaluronic acid fillers and dermal augmentation agents serve as scaffolds to which PRP binds, enhancing skin rejuvenation, soft tissue augmentation, and overall aesthetic appearance. <sup>2</sup>
Augmented fat injections	PRFM injections combined with autologous fat grafts		PRFM traps growth factors contained in PRP, slowing their release, which prolongs the survival of the injected fat. <sup>7</sup> PRP can enhance overall volume retention of injected fat and may be beneficial in treating HIV-associated facial fat atrophy. <sup>7,17-19</sup>
Microneedling	0.25-2.5 mm depth depending on anticipated outcome; multiple passes until pin-point bleeding without petechia or ecchymosis		Microneedling creates small holes in the skin, which enhances uptake of PRP, assisting in increased neocollagenesis.
Laser	Combining fractional laser resurfacing with PRP application		Administering PRP after fractional laser resurfacing improves skin elasticity, induces fibroblasts, and increases collagen density. <sup>20</sup>
<b>Striae Distensae</b>			
Striae distensae	Combining PRP administration with radiofrequency and ultrasound devices	PRP administered and followed by radiofrequency once every 4 weeks, or every 2 weeks for 8 weeks with ultrasound to enhance PRP penetration	Abdominal biopsies indicate increases in collagen density and elastic fibers, along with good or very good cosmetic improvements. <sup>21</sup>

**Table 1:** Platelet-rich plasma applications in dermatology and corresponding protocols.  
PRP = platelet-rich plasma; L-PRP = leukocyte platelet-rich plasma; PRFM = platelet-rich fibrin matrix