

The Role of Progeneron Hand Cream (PHC) in Persons with Early and Advanced Dupuytren's Disease and Contractures

David W. Scharp, MD, FACS
Progeneron, LLC

About the Author

Dr. David W. Scharp, MD, is a renowned scientist, surgeon, researcher, and a former tenured Professor of Surgery at Washington University St. Louis (Barnes Hospital). He has developed Dupuytren's Disease and Contractures. Dr. Scharp was a co-founder and Chief Scientific Officer of Novocell (ViaCyte). Dr. Scharp founded the non-profit Scharp-Lacy Research Institute, focusing on Diabetes, Stem Cell, and Dupuytren's research. Dr. Scharp also founded Prodo Laboratories, <https://prodolabs.com/>, the global leader in distributing Human Islets for Research to bio, pharma, and educational institutions, as well as the International Islet Distribution Program (IIDP) for the National Institutes of Health (NIH). Dr. Scharp has published over 200 articles in peer-reviewed journals and has been cited over 9,000 times.

Dr. Scharp has studied the pathophysiology of Dupuytren's Disease for the past decade. His research led him to develop a therapeutic cream, Progeneron Hand Cream (PHC), that has stabilized his contractures for the last five years, halted further progression and prevented his case from requiring surgical or injectable enzymatic treatments.

As of May 2021, PHC has undergone a 29 patient, 90-day IRB safety study headed by Dr. Raymond Raven, MD, and is presently the subject of a 180-day study in which, thus far, 93% of patients have stabilized without any indication of disease progression. Furthermore, nodule softening, pain mitigation, and increased flexibility have been experienced by over 72 % of the population. Anecdotal evidence would also suggest that the application of PHC will also work in conjunction with enzyme treatments and may obviate more invasive surgical procedures.

Dr. Scharp has recently published a 250-page monograph on the history and pathophysiology of Dupuytren's Disease and Dupuytren's Contractures. Information is available on both the Progeneron website <https://progeneron.net/> via a physician's login portal and the Scharp-Lacy Research Institute <https://scharplacy.org/>, a nonprofit institute focusing on Diabetes, Stem Cell, and Dupuytren's research.

Progeneron LLC is a research company focusing on naturally-derived topically applied products for hand and skin diseases, disorders, syndromes, and conditions.

Introduction

Progeneron, LLC has developed Progeneron Hand Cream (PHC) to treat Dupuytren's Disease and Dupuytren's Contractures.

In early presentations of Dupuytren's Disease, PHC has demonstrated considerable promise in early phase clinical trials to slow or prevent disease progression and contracture formation. Over time, the daily use of PHC may obviate the need for enzyme injections or surgical procedures. Correspondingly, PHC may be utilized pre-injection and post-injection and preoperatively and postoperatively to optimize outcomes. In patients with advanced Dupuytren's Contractures, PHC may also be used as an adjunct for a patient requiring enzyme injections or sequential surgical interventions to recover functional mobility of the fingers and hand.

Clinical Observations and PHC Product Use Recommendation

1. Dispensing and Safety Protocols
2. Early and less severe forms of Dupuytren's Disease and Contractures
3. Advanced forms of Dupuytren's Disease and Contractures
4. The role of PHC in ongoing management of Dupuytren's Disease and Contracture in conjunction with other forms of treatment
5. Conclusions

1. Dispensing and Safety Protocols

Configuration/ Consistency/ Color	15mL or 30mL airless bottle with an airless pump actuator. The consistency is a light cream that easily absorbs into the skin. The color is slightly beige.
Application Volume	A full pump dispenses approximately 0.25cc of cream.
Application Frequency (general)	Two full pumps at 0.25cc of cream per pump, 2X daily for an aggregate of 1.0cc, is the recommended daily application in most instances.
Application Modality	Apply to clean hands. Rub the cream gently into the palm and around all digits bottom to top until it is completely absorbed – approximately one to two minutes. If any residual product remains, then wipe off the excess and decrease the amount used for your next application. To allow for maximum absorption of PHC, hands should be washed no less than ten minutes after the cream has been applied. <i><u>Specific instructions have been provided for recommended application based upon disease progression below.</u></i>
IRB Safety Study (Pro00045656)	90-day Safety Study of PHC in 29 subjects with various stages of Palmar Fibromatosis indicating no complications across the population.

HRIPT Test (20171/42068)	An HRIPT test of PHC was completed across 43 subjects, indicating zero skin irritation or contact dermatitis across the population.
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2. Early and less severe forms of Dupuytren's Disease and Contractures

When Dupuytren's Disease presents in an early stage of nodule formation or contracture development, early aggressive treatment of involved digits and palms with PHC may be beneficial to keep Dupuytren's disease from progressing. The use of PHC may also reduce the severity of the disease progression either alone or in conjunction with enzyme treatments or surgical interventions.

Contractures, if not too advanced or severe, may stop their ongoing progression with a PHC regimen. Oppositely, stopping the application of PHC most likely will result in the resumption and continued progression of the development of Dupuytren's Contractures.

As Dupuytren's Contractures are typically insidiously progressive, using PHC early in the disease course has shown promise to prevent, slow down, or even wholly arrest the disease and contracture progression. This has been the case for over five years with my own (Dr. David Scharp, MD) Dupuytren's Disease and Dupuytren's Contractures in both hands.

Early contractures of the finger(s) have the potential to improve with the long-term application of PHC. The goal of treating these less severe contractures is to preclude advancement to the fixed-stage contractures that would potentially require more aggressive and invasive surgical treatment.

PHC Protocol Early Stage:

No Contractures / Trigger Finger / Minor Nodule Formation

One pump two times daily (morning and evening).

Nodule Formation / Contracture Development

Two pumps two times daily (morning and evening).

3. Advanced forms of Dupuytren's Disease and Contractures

Advanced long-standing Dupuytren's Contractures are those that have formed significant amounts of scar tissues with excessive collagen, essentially restricting any significant movement around severely affected joints.

A generally accepted tenet held by the medical and surgical community is that severe and fixed Dupuytren's Contractures will not sufficiently respond to the application of any topical product by itself due to the extensive scarring that has taken place. Progeneron does not purport that PHC contains any component that can sufficiently break down severe and often rigidly fixed contractures. Instead, these advanced contractures will likely need to be initially treated by enzyme injection or open

surgical destruction of the restricting scar tissue to augment the accepted and more standardized methods already in use.

Application of PHC for more advanced forms of Dupuytren's Disease and Contractures should include the palm and all digits of the hand to prevent the potential future progression of Dupuytren's Contracture severity regardless of whether the digits are presently impacted.

PHC Protocol Advanced Stage:

Significant Scar Tissue / Advanced Nodule formation / Cord Development

Two pumps two times daily (morning and evening). If more than two digits are impacted, or hands are larger than average, three pumps two times daily can be used. If additional product is used or the nodules, cords, or tissue is specifically dense, extra time may be required (greater than two minutes) for PHC to absorb into the skin fully.

4. The role of PHC in ongoing management of Dupuytren's Disease and Contracture in conjunction with other forms of treatment

PHC may be utilized before and following enzyme injections or surgical procedures. PHC may also be used pre-injection, post-injection, preoperatively, and postoperatively to optimize outcomes.

PHC should be applied (one pump) to each area on a three-times-daily basis and rubbed into the affected fingers and palm until it is completely absorbed, which generally takes one to two minutes. If, after rubbing in for two minutes, one has excess PHC that has not been absorbed, the residual can be wiped away as maximum absorption will have occurred. It is essential to repeat PHC applications three times daily to mitigate the potential for disease progression and resurgence.

PHC can be used as an adjunct for 30 days before surgical or enzyme injections by increasing application to the affected palm and digits to a three-times-daily regimen to mitigate progressive inflammation and the inflammatory response. One should be sure that the palm is included in these applications by also rubbing PHC below the affected digits to include the nodules and cords of the palms.

Historical experience suggests the lasting effects of the enzyme and surgical treatments on their own may not be permanent except in a minority of cases. Unfortunately, this insidious disorder is life-long once it manifests; the disease does not stop its progression. As is frequently observed, resumption of significant contractures may occur in the previously treated digits and possibly develop in new digits and advance in the palm.

However, it may now be possible to prevent post-enzyme and post-surgical clinical recurrence of contractures with the daily use of PHC. The dosage of the daily amount of PHC one uses at the levels post-enzyme injection or postoperatively compared to the initial recommended amount can be amended dependent upon response. If one observes that recurrent symptoms are progressing while reducing the dose or frequency of doses, one should return to the original recommended dose. One can determine through self-monitoring if reducing the amount of PHC or the frequency of applications will continue to prevent recurrence over time.

PHC Protocol Pre and Postoperative:

Preoperative

For 30 days before a procedure (injectable or surgical excision), maintain a regimen of two pumps three times daily (morning, afternoon, evening) to maximize mitigation of the inflammatory response.

If more than two digits are impacted, or hands are larger than average, three pumps three times daily can be used. If additional product is used or the nodules, cords, or tissue is specifically dense, extra time may be required (greater than two minutes) for PHC to absorb fully into the skin.

Postoperative

After waiting 7 days following enzyme injections or 14 days following surgical excision, the patient can restart the application of PHC. Once restarted and for 30 days post-procedure (injectable or surgical excision), the patient should maintain a regiment of two pumps three times daily (morning, afternoon, and evening) to maximize mitigation of recurrent Dupuytren's Contracture and the inflammatory response. After 30 treatment days, the regimen can be scaled back to two pumps twice daily on an ongoing basis. Should clear evidence of aggressive Dupuytren's Contracture progression reoccur, it is recommended that the patient return to a regimen of two pumps three times daily (morning, afternoon, and evening). It is presumed that the treating physician will be informed of any reoccurrence of symptoms or deterioration of the patient's condition post-treatment.

5. Conclusion(s)

In earlier and less severe presentations of Dupuytren's Disease and Contracture, the use of Progeneron Hand Cream (PHC) has demonstrated considerable promise in early phase clinical trials to slow or halt disease progression and contracture formation. Protocols for treating severe presentation of Dupuytren's Disease and Contracture are in progress, with additional clinical trials to follow.

Further studies are being conducted to explore the efficacy in select patient populations, not only in Dupuytren's Disease and Dupuytren's Contracture but also in other diseases involving pathologic proliferation of collagen and fibroblasts in the formation of scar tissue.

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