

# **The Effects of Actipatch Therapy Following Cosmetic Face and Neck Procedures: An Observational Study**

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## **Study Number One**

### **The Effects of Actipatch™ Therapy Following Cosmetic Face and Neck Procedures: An Observational Study**

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#### **Introduction**

ActiPatch™ Therapy is a device, which is marketed for use in patients to reduce localized pain and inflammation to accelerate healing. To access Actipatch™ and its place in the care of the aesthetic Plastic Surgery patient, this device was used in 32 patients who underwent 52 cosmetic, surgical procedures of the face and the neck. These patients were then compared to a group of patients (30 patients and 45 procedures) who underwent the same procedures, using the same perioperative protocol except for the use of Actipatch therapy. The groups were not matched for age, sex or comorbidities. This prospective observational study demonstrated that Actipatch™ Therapy reduces the number of days, by 30% to 50%, of readily observable swelling and bruising in patients who underwent Blepharoplasty (N = 21 procedures), Rhinoplasty (N = 14 procedures), facelift (N = 8 procedures), neck lift (N = 1 procedure), and liposuction of the neck (N = 8 procedures). The protocol, subsequent observations, and analysis with conclusions and recommendations will be discussed.

#### **Methods**

Actipatch™ Therapy (250, 500) was used on patients pre-operatively 12 to 24 hours (N = 10 procedures) and immediately post-operatively 3 to 10 days (N = 42 procedures). All patients were on the same peri-operative protocol for pain and promotion of wound healing.

1. Cox-2 inhibitors (Celebrex 200 mg BID or Vioxx 25 mg BID)
2. Preoperative and postoperative supplements (Multivitamin, Ester C, Bromelain)
3. Postoperative Manual Lymphatic Drainage (MLD) and deep tissue release
4. Narcotics offered

All patients were observed by the senior author, a Nurse Practitioner, and the treating Physical Therapist at 3 days, 5 to 6 days, 7 to 10 days, 13 to 14 days, 21 days, 28 days, and 42 days postoperatively. The following objective and subjective analysis was performed (see Actipatch™ Data Sheet Figure #1):

1. Narcotic utilization
2. Swelling and bruising
3. Need for MLD for swelling and discomfort
4. Patient observations of Actipatch therapy

#### **Protocol**

Actipatch™ 250 or 500 was placed on the forehead, corner of the brow, or sides of the face on all of the patients depending on the procedure that was performed. We followed 32 patients who underwent Rhinoplasty (N = 14), Blepharoplasty (N = 21), Facelift (N = 8), Neck lift (N = 1), and Liposuction of the Neck (N = 8). The Actipatch™ was placed in the following locations:

1. Rhinoplasty (250 -between eyebrows)
2. Blepharoplasty (250 on the side above each brow)
3. Facelift (500 on each side of the face)
4. Neck lift (500 on each side of the neck)
5. SAL of Neck (500 on each side of the neck)

#### **Observations**

The following observations (#1 through #4) were noted by the three examiners (see Table #1):

##### **Narcotic Use**

1. Swelling and Bruising (in number of days)
2. MLD needs (in number of sessions)
3. Compliance (in wearing the Actipatch™ Therapy)

#### **Discussion**

Actipatch Therapy was very effective in decreasing postoperative swelling and bruising. We noted a 30-50% reduction in the number of days the patients were swollen and bruised compared to a similar sample group undergoing the same operations without the Actipatch therapy. We use Postoperative Manual Lymphatic Drainage and Deep Tissue Release in all of my cosmetic surgery patients. Those patients who used Actipatch therapy needed 30-50% fewer sessions. The endpoint of MLD is decided by the Therapist and patient. The patient describes a return of the operated tissues to their normal state devoid of swelling and discomfort.

The ActiPatch Therapy™ was not used effectively preoperatively, because the patients were unable to activate the unit, embarrassed to wear and use it, or forgot to wear the actual unit. We found postoperative compliance to be excellent for the first 3 days and then inconsistent between the 3rd and 10th days due to patients' embarrassment to wear the unit, patients' forgetfulness to replace after showering and before coming into the MD office, irritating adhesiveness, poorly constructed adhesiveness, or lack of conformation of the adhesive to the actual body part. Narcotic usage is typically minimal for patients following these operations. Therefore, it was not surprising that no change in narcotic usage was noted.

**Table 1**

Operation N=52 Procedures	Narcotic Use		Swelling/Bruising		MLD	
	Without ActiPatch	With ActiPatch	Without ActiPatch	With ActiPatch	Without ActiPatch	With ActiPatch
Two Lid Blepharoplasty N=7	Minimal	No Change	7 -10 days	7 -10 days ( 30%)	4-6 weeks	2-4 weeks ( 50%)
U+L - Four Lid Blepharoplasty N=14	Minimal	No Change	10-14 days	5-7 days ( 50%)	4-6 weeks	2-4 weeks ( 50%)
Face Lift N=8	Minimal	No Change	14-21 days	10-14 days ( 30%)	4-6 weeks	4-5 weeks ( 30%)
Neck Lift N=1	Minimal	No Change	10-14 days	7 -10 days ( 30%)	6-8 weeks	4-5 weeks ( 30%)
Neck SAL N=8	Minimal	No Change	5-7 days	3-5 days ( 50%)	6 weeks	2-4 weeks ( 50%)
Rhinoplasty N=14	Minimal	No Change	10-14 days	5-7 days ( 50%)	6 weeks	4 weeks ( 30%)

**Conclusions**

Our observations of cosmetic surgery patients who underwent face and neck cosmetic procedures can be summarized as follows:

1. Patients who used Actipatch™ had half as many days of observable swelling and bruising (see Table #1) as compared to sample size/procedure matched group not using Actipatch.
2. Patients who used Actipatch™ felt they needed fewer MLD sessions to decrease their swelling, bruising, and localized discomfort as compared to the group not using Actipatch Therapy.

**Conclusions continued**

4. Narcotic use is typically minimal and no changes were observed.
5. Poor compliance among patients was due to:
  - face areas were not concealable leading to patients' embarrassment
  - flashing lights disturbed patients' partners
  - the adhesive was irritating
  - inconsistent adhesiveness of the patch

ActiPatch™ Therapy is very useful to decrease the swelling, bruising, and localized discomfort in patients who undergo Blepharoplasty, Rhinoplasty, Facelift, Neck Lift, or Neck liposuction if these patients wear the Actipatch for a minimum of 5 to 7 days.

Following this observational study, I have added Actipatch™ Therapy to my peri-operative protocol for patients who are undergoing cosmetic surgical procedures of the face and neck and patients who desire a decrease in their postoperative recovery time.

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## Two Studies From Dr. Laurie A. Casas

### ActiPatch Therapy Following Cosmetic Surgery of the Face and Neck: A Valuable Adjunct to the Postoperative Management

ActiPatch Therapy has become an integral part of the postoperative treatment plan/regime in my patients following Blepharoplasty, Rhinoplasty, Facelift, Neck lift and Liposuction of the Neck. After completing a Prospective Observational Study which evaluated the effects of using ActiPatch on 32 patients (52 procedures) as compared to a control group of 30 patients (45 procedures) who underwent the same cosmetic procedures without the use of ActiPatch, we found that ActiPatch Therapy decreased postoperative swelling, bruising, localized fibrosis and localized discomfort by 30-50%. Because of this Observational Study I have added ActiPatch Therapy to my postoperative protocol for patients undergoing cosmetic surgical procedures of the face and neck and who desire a decrease in their postoperative recovery time.

I performed a prospective observational study on 32 patients (52 procedures) using ActiPatch Therapy and compared them to 30 patients (45 procedures) control group to evaluate the effect of ActiPatch on postoperative 1) swelling and bruising, 2) localized subcutaneous fibrosis and 3) localized discomfort. Both groups of patients were on the same preoperative protocol of vitamin supplements and postoperative protocol which continued the use of supplements and added the use of Cox 2 inhibitors for localized pain. In addition, all patients had Manual Lymphatic Drainage with a specific protocol of 2 visits per week for 6 weeks. Both groups of patients were evaluated by a Nurse Practitioner, the treating physical therapist and the senior author at 3 days, 5-6 days, 7-10 days, 13-14 days, 21 days, 28 days and 42 days postoperatively. An observational data sheet was completed at each visit which documented 1) localized pain, 2) swelling and bruising, 3) the soft tissue fibrosis which is characterized by subcutaneous lumps and tightness and

discomfort when moving the operated part. The Actipatch was either placed under the gauze head wrap dressing in the facelift, neck lift and neck liposuction patients, and at the glabella or corner of the brow in the Rhinoplasty and Blepharoplasty patients. All patients used the Actipatch for the first three days and some continued to use it for a total of ten days. The endpoint was when all visible bruising had resolved. We found that ActiPatch therapy was very effective in decreasing postoperative swelling and bruising. Specifically, our observers noted a 30-50% reduction in the number of days the patients had visible swelling and ecchymosis compared to the control group. Both groups had Manual Lymphatic drainage and Deep Tissue Release Therapy scheduled for 2 times per week for six weeks. (ref: "Manual Lyphatic Drainage: An Integral Component of Postoperative Care in the Plastic Surgery Patient" Presented at the Annual Conference of the American Society of Lymphology, Chicago, IL August 1999 and "The role of Manual Lymphatic Drainage in the Postoperative Care of Cosmetic Plastic Surgery Patients", Presented at the Annual Conference of the American Society of Lymphology, Las Vegas, Nevada October, 2004.) The ActiPatch group required 30-50% fewer sessions to decrease swelling, bruising and localized discomfort from soft tissue fibrosis. The endpoint of Lymphatic Drainage Therapy is decided by both the patient and the therapist who together decide that the operated tissues feel and look normal.

ActiPatch Therapy is very useful to decrease the swelling, bruising and localized discomfort in patients undergoing cosmetic of the face and neck. The following protocol is now used in my practice for all patients who desire a decrease in their postoperative recovery time following Cosmetic Surgery of the face and neck.

#### Blepharoplasty:

Actipatch 500 either over each eyebrow, or at the corner of each brow or under each lower eyelid. **24 hours per day for 3-7 days.** It is removed for showering and replaced by moistening the hyrogel. Some patients used paper tape to help hold the ActiPatch in position.

#### Rhinoplasty:

Actipatch 500 at the Glabella **24 hours per day for 3-7 days.**

#### Facelift:

Actipatch 500 is placed on each preauricular area under the gauze head wrap dressing. When the dressing is removed the Actipatch is placed either in the pre or post auricular area as the swelling drops down the face to the neck lymph nodes over the **first 3-10 days after surgery.**

#### Neck Lift:

ActiPatch 500 is placed on both sides of the neck under the ear and under the gauze head wrap dressing. When the dressing is removed the Actipatch is worn on the neck area where the most swelling and bruising is visible **for the first 3-10 days.**

#### Neck Liposuction:

same protocol as Neck Lift.

ActiPatch is removed for showering and replaced by moistening the hyrogel. Some patients use paper tape to help hold the ActiPatch in position.

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