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# Stop "Cruising for a Bruising": Mitigating Bruising in Aesthetic Medicine

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The quest to restore a more youthful appearance by filling and volumizing facial deformities and deficiencies continues to be an ongoing pursuit in the noninvasive aesthetics market. Bruising can result from the delivery of neuromodulators and dermal fillers—common tools in the aesthetic provider's armamentarium to combat the ravages of aging. There are steps both the aesthetic provider and the client can take to minimize the potential for bruising. This article focuses on the etiology of bruising, the pharmacological and herbal agents to avoid prior to an aesthetic procedure, techniques to utilize during aesthetic procedures that lessen the potential of bruise formation, and pharmacological and herbal agents to administer after an aesthetic procedure to ultimately mitigate bruise formation.

Aesthetic medicine is a respected and well-accepted field of medicine characterized by minimally invasive techniques and products that utilize injectables, lasers, and other procedures that require no surgery or general anesthesia. The goals of aesthetic medicine are to maintain a natural and healthy appearance and to assist clients in looking their best. Advancements in aesthetic techniques and technology allow these procedures to be safely and effectively conducted in an office by certified, experienced, and skilled aesthetic medical providers.

Today many regard aesthetic medical treatments as a normal part of their health and beauty regimen. This field has seen a 250% increase in nonsurgical cosmetic procedures since 1997 (American Society of Aesthetic Plastic Surgeons, 2012). According to the American Society of Aesthetic Plastic Surgeons (2012), the top five nonsurgical cosmetic procedures in 2012 include Botulinum Toxin Type A, hyaluronic acid dermal fillers, laser hair removal, microdermabrasion, and chemical peel.

One of the biggest challenges with aesthetic medical procedures is "how to avoid the down time" and "how to minimize the tell-tale signs" associated with these procedures. The possibility of bruising postprocedure, which is an evident sign of having had "something done," can be a quandary for many who wish to avoid calling attention to themselves. "What happened to you? Are you safe at home? What does the other guy look like?" These are just a few of the common unsolicited questions clients confront days to weeks after an aesthetic procedure results in bruising. While it is impossible to completely eliminate bruising, are there steps one can take to prevent or at least minimize the potential of developing a bruise? The short answer to this question is a resounding "yes," but like everything in life and medicine, the reality of this situation is complicated. Bruise mitigation requires a good understanding of what an actual bruise is, how it occurs, and what contributes to its development. Knowledge of the etiology of bruising will pave the way to practical solutions for making this unsightly nuisance the exception rather than the rule.

## THE ETIOLOGY OF A BRUISE

A *bruise*, also known as a "contusion" or "ecchymosis," is a small hemorrhagic spot that results from extravasation of blood; it is found in the skin or mucous membrane and presents as a nonelevated, rounded or irregular, blue or purplish patch (Dorland, 2003). Some clients bruise more than others especially if they are taking aspirin (shuts down platelet function) or other anticoagulant medications. Clients tend to bruise more easily because of skin thinning that occurs with age. Elderly clients tend to bruise easily even with minor trauma.

Facts about bruises (Shiel, 2012) are given as follows:

- Bruises occur when tiny blood vessels are damaged or broken (i.e., extravasation of blood in the tissue).
- The injury required to produce a bruise varies with age and with certain medications.

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- Bruises may persist up to 2–3 weeks.
- Spontaneous bruising can indicate a serious bleeding tendency.
- Sticky platelets in the blood lump together when the blood leaks out of the capillaries and make a platelet plug.
- Clients with inherited clotting problems (e.g., hemophilia) or acquired clotting problems (e.g., liver diseases like cirrhosis) can develop extensive bruising, unexplained bruising, or even life-threatening bleeding.
- Bruises change in appearance over time, and it may be possible to tell how old a bruise is on the basis of its appearance. When it first appears, a bruise will be reddish looking, reflecting the color of the blood in the skin. By 1–2 days, the reddish iron in the blood undergoes a change and the bruise will appear blue or purple. By Day 6, the color changes to green and by Day 8–9, the bruise will appear yellowish-brown. In general, the bruised area will be repaired by the body in 2–3 weeks after which the skin will return to normal.
- On occasion, instead of going away, the area of a bruise will become firm and may actually start increasing in size. It may also continue to be painful. There are two major causes for this. First, if a large collection of blood is formed under the skin or in the muscle, instead of trying to clean up the area, the body may wall the blood off causing what is called a hematoma. A hematoma is nothing more than a small pool of blood that is walled off. A hematoma may need to be drained by a physician.

## PRACTICAL BRUISE PREVENTION AND MITIGATION TIPS

### *Disclaimer*

The following information is based on 25 years of experience in aesthetic medicine. In no shape or form should this be taken as formal medical advice; rather, the following "pearls" represent actions taken over the years. It is imperative that a client discusses any herbal or medication changes with their physician before discontinuing medications, especially prescriptions.

The faster one applies pressure and cold compresses to the sight of an injury, the quicker the aesthetic provider will be able to reduce the swelling, pain, and potential for bruising. We will review herbal remedies, herbals and pharmaceuticals to avoid, injection techniques that minimize bruising, and ultimately, pre- and posttreatment tips that collectively diminish the potential for bruise formation in aesthetic clients. We will start by discussing the herbal remedies and how they affect bruising. See Table 1.

**TABLE 1 Herbal Remedies for Bruises**

| Herbal Remedy | Description |
|---|---|
| *Arnica montana* | To prevent bruising, use *Arnica montana* 1–2 days before treatment, and 1 day after. Rub a little tincture of arnica or arnica gel onto the bruise. |
| Bilberry extract | Bilberry contains anthocyanosides that are potent antioxidants that may help reduce or eliminate bruising by stabilizing collagen, increasing intracellular vitamin C levels, and strengthening capillaries. |
| Bromelain | Bromelain is a pineapple enzyme that speeds healing, possibly by helping the body clear metabolic wastes from injuries such as bruises. |
| Cabbage | Applied to bruises and swelling, macerated cabbage leaves encourage healing. |
| Comfrey | Comfrey's healing powers have been attributed to its high content of allantoin, a substance that promotes the growth of tissue, bone and cartilage, both externally and internally. There is, however, some controversy over the safety of taking comfrey internally over a long period. It contains pyrrolizidine alkaloids, compounds that are toxic to the liver. Use liberally in a cream or oil externally on bruised skin. |
| Parsley | Parsley is a common garden herb, rich in vitamins and therapeutic properties. Parsley has the ability to shrink small blood vessels and is helpful in treating hemorrhoids, broken or thread veins and bruising. Crush a handful of parsley and apply to bruised area. |
| Vitamin C | Take daily to prevent bruises, especially if one is prone to bruising. |
| Witch Hazel | It is recommended one bathe the area (externally) with witch hazel liquid or cream; this helps disperse the blood and encourages healing. |

*Note.* From "Natural Treatment of Bruises. Weil™," by Andrew Weil, 2014. Retrieved March 10, 2014, from http://www.drweil.com/drw/u/ART02931/Bruises.html

### *Pharmaceuticals That May Promote Bruising*

During the Aesthetic Consultation (Brennan, 2012), the aesthetic provider should have identified all medications and herbal remedies their client is taking during the medical history review. The aesthetic provider should identify any herbal supplements in Table 2 during a review of their client's medical history. Take this opportunity to recommend that the client discontinue the use of these supplements at least a week in advance of the aesthetic procedure. Assuming that the client has first received physician authorization to discontinue a medication listed in Table 3, the general practice is to have the client discontinue a potential bruise promoting medication 7 days prior to a nonsurgical aesthetic treatment. The extent of

**TABLE 2 Herbals to Avoid (i.e., May Exacerbate Bruising)**

| Herbal Remedy | Description |
|---|---|
| Chamomile | Chamomile contains a small amount of coumarin, which may have very mild blood thinning effects, but usually just in high doses for long periods of time. |
| Clove | Clove oil contains a chemical called eugenol that seems to slow blood clotting. There is a concern that taking clove oil might cause bleeding in people with bleeding disorders. |
| Ephedra | Ephedra is banned in the United States due to safety concerns. |
| Fish oil | Taking more than 3 g/day might keep blood from clotting and can increase the chance of bleeding. |
| Garlic | Garlic, especially fresh garlic, might increase bleeding. |
| Ginger | Some women have reported extra menstrual bleeding while taking ginger. Ginger might increase the risk of bleeding. |
| *Ginko Biloba* | *Ginko* could be a concern if a client has a bleeding disorder or if they are planning to have surgery. Physician consultation is important. |
| Glucosamine | There are several reports showing that taking chondroitin with glucosamine increases the effect of warfarin (Coumadin) on blood clotting. This can cause serious bruising and bleeding. It is advised to avoid chondroitin if a client is taking warfarin. |
| Grape seed | If a client has a bleeding disorder or high blood pressure, it is recommended that a client consult his or her physician before using grape seed extract. |
| Licorice | Licorice might interfere with blood pressure control during and after surgery. It is recommended that clients stop taking licorice at least 2 weeks before a scheduled surgery. |
| Saw palmetto | Saw palmetto might slow blood clotting. There is some concern that it might cause extra bleeding during and after surgery. It is recommended that clients stop using saw palmetto at least 2 weeks before a scheduled surgery. |
| Vitamin E | High doses of vitamin E can cause nausea, diarrhea, stomach cramps, fatigue, weakness, headache, blurred vision, rash, bruising, and bleeding. |
| Willow bark | Willow bark contains a chemical called salicin that is similar to aspirin. Willow bark might slow blood clotting. There is concern that it could cause extra bleeding during and after surgery. It is advised to discontinue the use of willow bark at least 2 weeks before a scheduled surgery. |

*Note*. From "Natural Treatment of Bruises. Weil™," by Andrew Weil, 2014. Retrieved March 10, 2014, from http://www.drweil.com/drw/u/ART02931/Bruises.html

bruising may be affected by pharmaceuticals (e.g., anticoagulants and antiplatelet drugs) that interfere with blood clotting and thus cause more bleeding into the skin or tissues. Manufacturers of nonsteroidal anti-inflammatory drugs are required to warn consumers that there is an increased chance of having a heart attack, stroke, and stomach bleeding. Warfarin (Coumadin) is often prescribed by physicians to prevent clotting in patients who have had blood clots in their legs or heart. Warfarin can cause severe bruising, especially if the level of the medication is at high doses. Medications containing cortisone, such as prednisone, promote bruising by increasing the fragility of the capillaries in the skin (Shiel, 2012). With the approval of the client's physician, it is important to recommend discontinuation of these medications a week prior to an aesthetic injectable procedure.

## *Injection Techniques and Tips That Minimize Bruising*

A slow, steady injection mitigates many complications, including bruising. Proper injection technique is important for optimal outcomes in both neuromodulators and dermal fillers. It is imperative that the aesthetic provider know the anatomy of the facial vasculature structures, including the "danger zones." True hematomas rarely occur. The aesthetic provider must tailor the product to the client and to the area they are treating. Some practical bruise-prevention techniques include the following:

- Utilize appropriate injection techniques (Brennan, 2013)
- Inject slowly (less than 0.3 ml/min)
- Apply firm pressure if bleeding occurs
- Know your anatomy—see Figure 1 detailing the facial arterial/venous system and "danger zones." Avoid injecting directly into vascular areas of the face.
- Minimize the potential of needle marks by using the smallest needle possible; needle mark incidence increases with the gauge of the needle. Needle marks may present as pinpoint bruising and/or raised wheals; the extent of bruising is influenced by the characteristics of the skin.

## *Pre- and Posttreatment Tips*

It is critical that the aesthetic provider and his or her staff properly educate the client regarding bruising prevention prior to treatment. Cold compresses prior to

**TABLE 3 Pharmaceuticals That May Contribute to Bruising (Contain Aspirin and Other Antiplatelet Drugs)**

| | | |
|---|---|---|
| Advil | Emprazil | Oxyburazone |
| Aggrenox | Endodan | Oxaprozin |
| Aleve | Excedrin | Pamprin |
| Alcohol | Feldene | Pepto-Bismol |
| Alka-Seltzer | Fenoprofen | Percodan |
| Amigesic | Feverfew | Persantine |
| Anacin | Fiorinal | Phenaphen |
| Anaprox | Flurbiprofen | Phenylbutazone |
| Anaproxin | Fragmin | Piroxicam |
| Ansaid | Froben | Plavix (Clopidogrel, Sanofi-Synthelabo, Paris, France)-Antiplatelet |
| APC | 4-way cold tabs | Ponstel |
| Argesic | Gelpirin | Pradaxa |
| Arthra G | Genpril | Prednisone |
| Artropan | Genprin | Equagesic |
| A.S.A. | Goody's Body Pain | Relafen |
| Ascodeen | Haltrin | Rexolate |
| Ascriptin | Halfprin | Robasissal |
| Aspergum | Heparin | Roxiprin |
| Aspirin | Ibuprin | Rufin |
| BC Powder | Ibuprofen | Saleto |
| Baby Aspirin | Ibuprohm | Salflex |
| Bayer | Indameth | Salaslate |
| Brufen | Indocin | Salsitab |
| Bufferin | Indomethacin | Sine-off |
| Butazolidin | Ketoprofen | Sine-Aid |
| Celebrex | Ketorolac | Sodium thiosalicylate |
| Cephalgesic | Lodine | Soma Compound |
| Cheracol caps | Lortab ASA | Sulindac |
| Children's aspirin | Lovenox | Synalgos DC |
| Choline salicylate | Magan | Tanacetum |
| Clinoril | Magnesium salicylate | Tolectin |
| Congesprin | Meclofenamate | Tolmetrin |
| Cope | Meclofen | Toradol |
| Coricidin | Medipren | Trandate |
| Corticosteroids | Mefenamic acid | Trendan |
| Coumadin (warfarin, Bristol-Meyers, Squibb, New York, NY)—Anti-Coag | Menadob | Trental |

(*continues*)

**TABLE 3 Pharmaceuticals That May Contribute to Bruising (Contain Aspirin and Other Antiplatelet Drugs) (*Continued*)**

| | | |
|---|---|---|
| Darvon ASA | Midol | Trigesic |
| Darvon compound | Mobic | Trilisate |
| Daypro | Mobidin | Tusal |
| Depakote | Monogesic | Vanquish |
| Dexamethasone | Motrin | Vimovo |
| Diclofenac | Nabumetone | Voltaren |
| Dipyridamole | Nalfon | Warfarin |
| Disalcid | Naprosyn—(NSAID-RX) | Xarelto |
| Divalproex | Naproxen | Zactrin |
| Doan's pills | Norgesic | Zorprin |
| Dolobid | Norwich | |
| Dristan | Nuprin | |
| Easprin | Ocufen | |
| Ecotrin | Orudis | |
| Eliquis | Oruvail | |
| Empirin | Oxphenbutazone | |

*Note.* From Cox (2008) and "Medications Containing Aspirin and Other Anti-platelet Drugs," by Peace Health Laboratories, 2011. Retrieved March 10, 2014, from http://www.peacehealthlabs.org/publications/Miscellaneous/Anti-Platelet%20Drug%20List.pdf

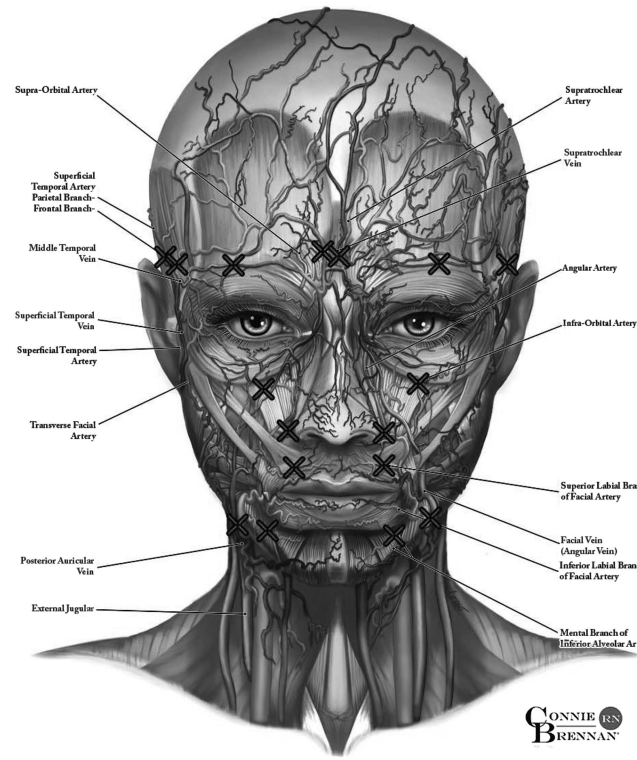


**FIGURE 1** The facial arterial/venous system and "danger zones." Copyright 2013, ConnieBrennan. All rights reserved.

injectable treatments can reduce blood flow to the area, thereby limiting bleeding into the skin and minimizing the size of the bruise. The cold temperature also decreases the inflammation in the area of the injury and limits swelling.

It is important to educate the client about proper cold therapy, elevation, and avoidance of certain medication, herbs, and lifestyle to keep bruising to a minimum after treatment. Some additional bruise-prevention tips include the following:

- Avoid alcohol 1 day before and after treatment to prevent vasodilation of the tissues.
- Apply ice as a pre- and posttreatment (for *up to* 48 hr).
- Apply warm compresses and light massage after 48 hr.
- Apply herbal agents such as *Arnica montana* and Bromelain pre- and posttreatment (see Table 1 for a comprehensive list of herbal remedies).
- Avoid strenuous workouts immediately before and 24–48 hr after the aesthetic treatment as this may lead to vasodilation of the tissues.

## CONCLUSION

While bruising is nearly impossible to prevent, both the aesthetic provider and their client can implement practical steps to minimize the occurrence and appearance of bruising. This involves informing the client that they should avoid herbal supplements and pharmaceuticals that thin the blood (e.g., aspirin, nonsteroidal anti-inflammatory drugs, anticoagulants, and antiplatelet drugs), both before and after the aesthetic treatment. It is imperative that a client gain prior physician approval before discontinuing prescription medications. There are steps the aesthetic provider can take to minimize bruising, including proper client education, proper injection technique, avoidance of facial "danger zones" during the injection process, and cold compresses before and after treatment. These and other practical tips (e.g., avoiding alcohol consumption, avoiding exercise, etc., pre- and posttreatment) will enhance the aesthetic outcome and minimize the potential of the "tell-tale" sign of having had a nonsurgical aesthetic procedure.

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