Cellulite Protocol

Description:

Women tend to carry increased body fat in the lower body, mainly because of the influence of estrogen, which increases the alpha-adrenergic receptor density in the butt, hip and thigh region. In addition, the vertical position of female collagen fibers results in fat cell accumulation inside “collagen pockets”. This causes the characteristic dimpling and puckering of cellulite. Together these physiological characteristics can result in slow fat release from the lower body and/or issues with cellulite in both overweight and thin women.

Relevant science:

The catecholamines are the major drivers of fat loss during exercise. There are two types of receptors the catecholamines bind: alpha-adrenergic receptors and beta-adrenergic receptors. Think of the beta-receptors as the fat burners (B for burn) and the alpha-receptors as slowing fat release (A for anti-burn).

Because women have nine times more alpha compared to beta receptors in their lower body, they do not burn fat effectively from this area. In order to attack this we want to: 1) Block the alpha-receptors and 2) Ramp up beta-receptor stimulation.

There are few ways to block the action of alpha-receptors. A “low-carb” is the best way to reduce alpha-adrenergic receptor activity. The natural agent yohimbine also does this. A short, intense burst of activity can create a large catecholamine surge. With the alpha-receptors blocked, more fat can be released. To ensure all the released fat is burned, intense workouts followed by low intensity, long duration steady-state activities, like walking, are best.

There is little to impact the collagen aspect of the problem. Newer medical spa treatments that involve varying forms of mechanical massage, “laser” light, heat, suction and pressure are MAY have benefit. Foam rolling and hydrotherapy, forms of self-guided deep tissue massage and blood flow stimulation, MAY also be beneficial.

Coleus Forskoli (forskolin) and Green Tea Extract (EGCG) can help reduce fat under low insulin environments. They work through mechanisms similar to the catecholamine hormones, but bypass the adrenergic receptor issue.
**Supplement Protocol:**

**Diet:** A low-carb diet of less 100g per day will produce the best results. Yohimbine, green tea extract and Coleus are of little use without a low insulin environment. Because of this, when possible take yohimbine before exercise and exercise on an empty stomach.

**Supplements:**
1) Coleus Forskoli (Forskolin). 250mg/day (standardized to 20% forskolin). Take daily whenever.
2) Green tea Extract. 300mg/day (standardized to 45% EGCG or more). Take daily whenever.
3) A strong cup of coffee or 150 to 300mg caffeine (take on empty stomach before exercise)
4) 1,000mg tyrosine to ramp up catecholamine production (take on empty stomach before exercise)
5) Yohimbine HCL (better than yohimbe bark)= 5 to 10mg (take on empty stomach before exercise)

- **NOTE** Metabolic Effect’s Fat Burner Complex can be used to replace the Coleus and Green Tea Extract as it contains both in the recommended doses.
- **NOTE** Insulin/food will inhibit activity of yohimbine so always take on empty stomach
- **Note** Follow protocol numbers 3 through 5 for seven days before taking seven to fourteen days ”off” without the supplements.
- **NOTE** Yohimbine can act as a stimulant and as a monamine oxidase inhibitor (MAO inhibitor) raising the levels of serotonin, adrenaline and dopamine. Check with a physician.
- **NOTE** The combination of caffeine, tyrosine and yohimbine can be overly stimulating for some sensitive individuals. Mix and match the supplements according to your sensitivity & start with lower doses. All may not be required and while the protocol may be less effective without them, it will still be useful without their use.
Exercise:

• 3 times weekly, preferably on an empty stomach under “low carb conditions”, engage in metabolic conditioning followed by steady state aerobics. Start with intense intervals or cardio-based weight training (10 to 30 minutes) followed by low intensity walking for as long as feasible (preferably 60 to 90 minutes).
• Twice weekly complete a lower body focused weight training routine (focusing on building muscle in these areas will pull and tighten connective tissue and collagen fibers). Focus on large compound exercises that maximally stimulate the glutes (butt muscle). We recommend squats, leg press, step-ups, glute bridges, reverse lunges and Bulgarian split squats. 4 to 5 sets of 10 reps using a heavy weight (i.e. a 10 rep max = a weight you can do 10 times but it is too heavy to complete 11) is best.
• Daily, or multiple times daily, engage in foam rolling or deep tissue massage as well as hydrotherapy (see hydrotherapy protocol below). This speeds blood flow to the lower body, MAY remodel collagen, and reduces fluid retention.

Medical Spa Treatments:

There are a few medical spa treatments that show minor promise in “some women”. Part of the issue with studies is that many women undergoing such treatments are not also exercising and eating in a way that could make a difference. Engaging in these procedures will undoubtedly produce better impact when utilizing fat reducing and muscle building exercise practices. Although the question remains, would they provide any additional benefit? A small number of studies say “perhaps”. The procedures mentioned here are the ones that may offer some potential, although we doubt any effects will be lasting without the diet and exercise component in place. One issue of note is that the popular treatment known as liposuction may actually worsen cellulite.

1) Radio waves, infrared light and suction massage. This is perhaps the best medical spa treatment available among a group of tools that are not great. The most popular version found commercially at spas and clinics is Velashape. There is at least one study on this product. Find more information here. This would be our choice among current commercial offerings.
2) Exercise, heat and pressure. Another new treatment on the market combines exercise in a heat pressure controlled system. This product has been studied and may offer some benefit for those who have access to and can afford the equipment. More information here.
3) Endermologie. This is a technique that combines rolling of the skin as well as massage. At least one study shows this technique can reduce the grade and appearance of cellulite, although the effect is very small, only about 15% of women. Here is a study on the technique as well as more on the treatment.
4) Acoustic Wave Therapy. Many people wrongly believe this is “laser therapy”, it is not. It uses pulsed sound waves to impact the collagen structures. Clinic’s in Europe and the US claim this procedure works. However, the research is less impressive. Although it may have an impact based on at least one small study.
Hydrotherapy Protocols:

Bath Procedure
1) Bathtub or hot tub at 100-106° F, q basin of ice water with a washcloth or hand towel and plenty of drinking water.
2) Immerse as much of your body as possible for up to 60 minutes. Maintain the bath temperature by draining some water and adding new hot water every 10 to 15 minutes.
3) Apply the cold towel to your head to prevent a headache if needed. Drink water throughout the treatment.
4) As an option, you may check your oral temperature and pulse every 10 to 15 minutes. The desired goal is an oral temperature of 103° F maintained for 10 minutes. If the oral temperature exceeds 104° F or the pulse exceeds 140 beats per minute, cool the bath and apply more cold water to the head.
5) Following the treatment, stand up slowly. It is recommended to have another person present to aid your rise as a safety precaution if you become lightheaded. You may want to wrap up and lay in bed to sweat (this is also a great natural medicine treatment to aid infections by inducing an “artificial” fever).

Contrast Hydrotherapy Procedure
1) Prepare two basins, large enough to submerge the affected body part.
2) Hot bath should be between 100° -106° F and cold bath should be 55° -65° F.
3) Immerse area in the hot bath for 3-6 minutes, then switch to cold bath for 1-4 minutes, repeating this hot-cold cycle 3-5 times.
4) Alternatively, set hot bath and use as directed. Use a cold water shower as the cold treatment.
5) Another option is sauna treatment alone or in alternating fashion with a cold shower.
6) Complete treatment should be done as often as possible preferably daily.

Hydrotherapy Resources: