Hyperhidrosis

Hyperhidrosis ("HI-per-hi-DRO-sis") is a condition where the sweat glands are overactive. It can affect the whole body, just the armpits or groin, or only the palms of the hands and soles of the feet. 1 to 3% of the U.S. population has it, and it usually runs in families.

Don't diagnose yourself with this condition. See a healthcare provider who can make sure you do not have an infectious disease or other serious condition causing excessive sweating.

There are actually 3 kinds of sweat glands in the body. The kind that is overactive in hyperhidrosis are eccrine sweat glands, which control "emotional sweating" and are concentrated in the palms and soles, with fewer in the armpits. These glands have an exaggerated reaction to normal emotional changes. Nervousness about having to shake hands or walk barefoot or stocking-footed in social settings makes this reaction even worse.

There are some radical treatments that may be risky, have side effects, and may not even be very effective. These include Botox (botulism toxin) injections, to paralyze the glands, and surgery to cut the symptathetic nerve supply to the area (the "fight or flight" nerve supply). I do not recommend these unless every single other option has already failed repeatedly.

Here are some less risky treatments to try:

1. Apply 20% aluminum chloride hexahydrate (prescription, brand names Drysol and Hypercare) nightly to dry skin. Cover; (e.g., gloves and socks); rinse off in a.m. After improvement, may apply just twice weekly.

2. Topical glycopyrrolate (an anti-cholinergic medication that dries up secretions in general), 0.5 to 4% cream or solution, compounded in an acidic base. (You need a prescription that you can take to a compounding pharmacy, where they will make this preparation by hand. Insurance might not pay for compounded medications. A brand-name version is not available.) Apply nightly to dry skin and cover (e.g., gloves and socks); rinse off in a.m. May cause dry mouth (since it dries up secretions); stay well hydrated. Do not get in eyes (don't touch face until gloves are on); causes blurred vision.

3. Oral medications might help, and may be chosen if they are needed for other conditions. Examples: indomethacin for gout or other inflammatory pain conditions; calcium channel blockers for high blood pressure; beta blockers for rapid heartbeat, hand tremors, or migraine prevention.

4. For palm-sole hyperhidrosis, iontophoresis ("eye-ON-toe-for-EE-sis") can be tried.
   - Iontophoresis causes blockage of sweat ducts by directing a mild electrical current through the skin. Iontophoresis is not usually recommended for excessive underarm sweating, because it is impracticable and the skin in the armpits is likely to be irritated by the process. You could consult a dermatologist to see if they think it should be tried for this condition.
   - Once the sweat output is blocked or interrupted, sweat production on the palms and soles is, often suddenly and dramatically, "turned off."
   - Iontophoresis appears to alleviate symptoms in approximately 83% of people with palm-sole hyperhidrosis, according to the American Academy of Dermatology.
   - It is safe and simple to perform.
   - The process is repeated every other day for 5-10 days, or until sweating is reduced to a comfortable level.
   - Once the desired dryness has been achieved, switch to a maintenance schedule of once every 1-4 weeks,.To maintain dryness, iontophoresis must be repeated as soon as sweating begins to return.
   - Most people report an improvement after 6 to 10 sessions.
   - In some locations, tap water may be too soft for iontophoresis to work. That is, it doesn't contain electrolytes to help the electric current travel through the water and into the ski. Adding about a half-teaspoon of baking soda to each tray of water will correct of this.

- If iontophoresis with plain water, or water with baking soda, doesn't produce the desired dryness, glycopyrrolate (see above) can be added to the water. In the majority of cases this works.
- Do not use iontophoresis if you are pregnant, have a pacemaker or metal implants (e.g., metal joint replacements), have a heart condition, or have epilepsy.
- Remove all jewelry before iontophoresis.
- If skin gets dried out, use moisturizer. Cover any scrapes, cuts, hangnails, and irritated skin with Vaseline before iontophoresis, to prevent irritation.

Iontophoresis machines can be purchased commercially ($800+) or made at home (~$30). Start by watching these videos that show **how to make and safely use** a home iontophoresis device:

http://bit.ly/xa2ygE - One version. http://bit.ly/x99NBz - Another version.

http://bit.ly/yv14zH - Demonstration of use. Warning: contains a lot of swearing. Starts with about 18 volts (swearing), then reduces it to 12 (with good results).

Here is one testimony from the Internet: http://bit.ly/yknNTN

...I watched the video showing the home made iontophoresis machine... Then I went to the store and bought four 6-volt batteries as in the videos, 3 pie pans, 6 alligator clips and about 3 feet of wire.

I tested the batteries with my test meter and everything tested with around 6.3 volts, pretty much the same as the video.

I placed 3 batteries in a series like the video, and hooked the leads to my pie pan filled with water and tested the current which came to around 19 volts total with the 3 batteries in a series.

When I placed my hands in the water it made me cringe. I guess the shock felt a little too much for me.
I ended up only hooking up 2 batteries in a series, which was around 12.7 volts, and when I put my hands in the water I could feel the current, but only for about 2 seconds.

I kept my hands in the water for 15 minutes. Then I took my hands out of the water, switched the leads to the opposite pans (plus to minus I guess you could say), and then placed my hands again in the water for another 15 minutes.

Both times when my hands were in the water I could feel a tingling sensation at times, but nothing unbearable.

The other thing I noticed was that anywhere my hands or wrists were touching the pie pan, I would get a slight burning sensation, nothing severe, just a tingle at times.

After the 30 minutes I removed my hands and put my trays and batteries away. To my surprise that evening my hands were 50% dry, and the next day stayed that way all day.

The next day since I wanted to make some improvements. I decided to wrap the pie plates in duct tape around the rim so where my wrist touched it wouldnt tingle.

I hooked up the batteries as before, and tried 20 minutes with leads positive, and then 20 minutes with the leads negative. Again, the next day probably 75% dry, even better than before.

Finally, after the 3rd day I went again 15 minutes positive, 15 negative, and hands were about 90% dry all day and night.

One of the only things I really notice when using batteries is when you put your hands in the water initially, you don't feel the current much, but when you reverse the polarity and your hands are wet, it seems like you get a surge of voltage in your hands. It's only for about 2 seconds, and then you only feel a slight tingle occasionally. With the duct tape around the perimeter of the aluminum plate, no burning sensation or tingling on your wrists.

In my case, the 12.7 volts, or two 6-volt batteries, are plenty of current for my hands, and maybe the three 6-volt batteries on the feet, but I havent tried that yet.

Good luck!

Updated 1.2012 by Leigh Saint-Louis, MD