

Androgen Deprivation Therapy and Prostate Cancer

To better understand androgen deprivation therapy, or hormone therapy, prostate cancer blogger Daniel Zeller dives into research and makes a splashy analogy.

January 29, 2024 By [Dan Zeller](#)

With androgen deprivation therapy (ADT) a near certainty in my future, I've been trying to get smarter about it. In my research, I came across this video from Dr. Eric Small at the University of California San Francisco (UCSF), that gives an introductory overview of ADT.

If you're not familiar with some of the lingo and drug names, it may be like taking a sip of water from a fire hose, but Dr. Small gets the concepts across pretty clearly.

After watching the video, my pea-sized brain came up with what may be an oversimplified, imperfect analogy that may make Dr. Small cringe. (I'm happy to be corrected if this analogy is out to lunch!)

We know that prostate cancer needs testosterone to survive and grow, and the testes and adrenal glands both produce testosterone. So how do we cut off the supply of testosterone from those two sources to the cancer cells?

Imagine that the cancer is your backyard swimming pool (even a kiddie pool). Pools (cancer cells) need water (testosterone) to do what they do best. Your testes are one hose that fills the pool, and your adrenal glands are the second hose that fills the pool.

If we don't want water (testosterone) in the pool (cancer), we shut off the spigots on the hoses to stop the flow. To turn off the spigot from the testes, we use one set of drugs (Lupron, Eligard, Zoladex, Firmagon, or Orgovyx). To turn off the spigot from the adrenal glands, we use a different drug, Abiraterone.

But there's another way to stop the pool from getting water, and that's to place a watertight cover over the top of it. That's what the antiandrogen drugs do—they cover the pool and stop the water from getting in. These drugs are Flutamide, Nilutamide, Bicalutamide, Enzalutamide, Apalutamide, or Darolutamide.

ADT blocks the production of testosterone and antiandrogen drugs prevent the cancer cells from receiving the testosterone.

I'm sure more research is in my future, and I'll be certain to share what I learn. In the meantime, don't giggle too much at my analogy.

[This post](#) originally appeared January 18, 2024, on [Dan's Journey Through Prostate Cancer](#). It is republished with permission.

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