FACT SHEET ON STRUCTURED TREATMENT INTERRUPTION

What is a structured treatment interruption (STI)?

An STI is the complete and abrupt stopping of HIV medications under medical supervision; it begins on a day agreed upon by physician and patient and usually lasts for a fixed amount of time.

What is the purpose of an STI?

The purpose of an STI depends on the needs and conditions of the individual, but the 3 most common reasons for a break in treatment include:

1) **Possible stimulation of the immune system against HIV** – Some researchers have believed that complete suppression of HIV (undetectable viral load) may stop the immune system from "seeing" enough virus to stimulate a strong response. During an STI, the viral load rises. By forcing the immune system to contend with periodic bursts of virus, some researchers think it may be possible to strengthen the body's natural response to HIV. This approach seems to hold the most promise for the small number of individuals who began HIV drugs early—during acute, or primary, HIV infection. However, most research in patients with chronic HIV disease suggests that such immune stimulation or "autovaccination" is not a successful strategy for treating HIV.

2) **Relief from the side effects and toxicities of HIV medications** – Although potentially life-saving, HIV drugs can be difficult to take and sometimes dangerous. The drugs are associated with a number of side effects and toxicities, including diarrhea, nausea and vomiting, elevations in blood fat levels, and changes in body shape. An STI may provide temporary relief from some of these problems; it may also relieve the feeling of being tied to a medication regimen.

3) **Partial restoration of drug-sensitive ("wild-type") virus** – For individuals who have taken many HIV medications and developed drug resistance, some investigators have suggested that an interruption in treatment could once again make the virus "drug sensitive." Even though there may be some truth to this (study results are conflicting), the benefits are limited. Drug-resistant virus never really goes away, and for individuals who have ever had an AIDS diagnosis, an interruption in treatment can mean a dramatic fall in T cell count and a return of symptoms or illness.

What's the difference between an STI and "non-compliance" or "non-adherence"?

During an STI, you completely and abruptly stop taking all of your HIV drugs for a fixed amount of time. Nonadherence, on the other hand, refers to missing doses of medication or only partially taking the medication. It's the difference between doing something all the way and doing it only part of the way. Nonadherence can cause resistance to HIV medications.

Are there risks to an STI?
Yes. Depending on your treatment history and medical condition, an STI could produce a sharp decline in your T cell count and a return of illness. This is true for individuals with a T cell "nadir" below 200. (Nadir means the lowest your T cell count has ever been.) For example, if your nadir was less than 200, but your count rose to 500 after you started HIV drugs, your count will likely drop quickly if you interrupt treatment. On the other hand, if your T cell count was 700 to begin with and didn't go up much after you started treatment, it probably won't go down very quickly if you interrupt treatment. Nonetheless, close monitoring of your viral load and blood work is important in the first few weeks and months after interrupting treatment.

Also, during periods off treatment, HIV can increase its diversity, which may allow drug resistance to emerge when treatment is restarted. However, the complete story on this is not clear, and more research is needed.

If I take an STI, can I go back to taking the same regimen?
In all likelihood, yes—assuming that you didn't stop the regimen because of its side effects or toxicity. (Side effects and toxicities will likely return if you restart the same drugs). If the regimen you were on kept your viral load undetectable, it will likely make it undetectable again. If the regimen didn't make your viral load undetectable, it probably won't make it undetectable if you go back to that regimen.

What's the bottom line?
1) *Do not undertake an STI without first consulting your physician*. If you want to take an STI but your doctor seems reluctant, find out why. Although the decision is ultimately yours anyway, it's always best if you and your physician plan together.
2) *Your medical history and past T cell counts are critical in deciding if an STI is right for you.* If you've had an AIDS-defining illness, or if your T cell count was ever low (less than 200), an STI may be risky for you. If you decide to take one anyway, talk to your doctor about medications to prevent opportunistic infections. If you were never ill before you started taking HIV medications and if your T cell count was never low, an STI may be safe for you. Remember this: under the current HIV treatment guidelines, if your T cell count has never been less than 350, you probably wouldn't have started taking HIV medications in the first place.
3) *Stay under medical care.* Especially during an STI, it's important to see your physician every 3 to 4 months for an examination and lab work—even more often in the first couple of months.
4) *Brace yourself for a decline in T cell count and a rise in viral load.* If you've become accustomed to having an undetectable viral load or a strong T cell count (for example, 700), the initial change in your numbers may cause you to worry.
5) *Have a plan.* Know how long the STI will last. Will you go back to the drugs on a certain date or when your T cell count falls to a certain level? Decide at the start when your STI will end.

Where can I call for more information, or for a referral to a physician who specializes in HIV?
You can call The Center for AIDS at 713.527.8219 or toll free at 888.341.1788.

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