

Testing for people taking capecitabine or 5-fluorouracil (5-FU)

This handout explains why Dihydropyrimidine Dehydrogenase (DPD) testing is important for people taking capecitabine or 5-fluorouracil (5-FU).

What are capecitabine (Xeloda®) and 5-fluorouracil?

They are part of a class of drugs called fluoropyrimidines.

Capecitabine and 5-FU are chemotherapy drugs often used to treat cancers such as:

- Breast
- Colorectal
- Stomach or esophagus (tube that connects your mouth to your stomach)
- Pancreas
- Head and neck
- and other cancers

Capecitabine is an oral chemotherapy drug that you swallow.

5-FU is given by an intravenous (IV) needle directly into your vein.

What is DPD?

DPD is a liver enzyme that helps your body break down fluoropyrimidines such as capecitabine and 5-FU. DPD stands for dihydropyrimidine dehydrogenase.

Your body must break down capecitabine and 5-FU to eliminate them from your body.

What is a DPD deficiency?

A DPD deficiency is when you have a form of the DPD enzyme that does not work as well as usual. **Between 3 and 7 out of every 100 people (3 to 7%) have a DPD deficiency.** Rarely, some people's DPD enzyme does not work at all.

DPD deficiencies are usually something you are born with and are caused by random changes in your DPYD gene. These are sometimes called **genetic mutations or variants.**

Without enough DPD enzyme activity, the body cannot break down capecitabine and 5-FU fast enough. As a result, the drugs can start to build up in the body, causing more severe side effects. For some people, the side effects can be life threatening.



There is now a simple blood test that can be done before starting capecitabine or 5-FU treatment to check for DPD deficiency.

Testing for DPD deficiency

If the test finds a DPD deficiency, you may be at risk of having more severe side effects. This does not mean you will have severe side effects for sure.

Your health care team will talk to you about what your test results mean. If a DPD deficiency is found, your capecitabine or 5-FU dose may be lowered. This is to ensure you are getting the right amount of drug in your body. Lowering your dose should not impact the way your drug works.

Using your test results, your health care team will create a treatment plan that is safe for you. You will also be watched closely for side effects.

Side effects of capecitabine and 5-FU

If you have a known DPD deficiency, talk to your health care team right away if you start to have any side effects.

Even if your test did not find a DPD deficiency, you may still have side effects, some of which may be severe.

Talk to your health care team about what to expect when taking capecitabine or 5-FU.

Ask your health care team for the capecitabine and 5-FU handouts for more information.

Some side effects to watch for are:

- diarrhea
- mouth sores
- nausea (feeling like throwing up) and vomiting (throwing up)
- hand-foot syndrome (redness, swelling and blisters on the palms of the hands or soles of the feet)
- low blood counts (low levels of neutrophils (white blood cells) red blood cells, or platelets in the blood)

Ask your health care team for these pamphlets for more information:

- **Diarrhea**
cancercareontario.ca/en/symptom-management/3151
- **Oral Care**
cancercareontario.ca/en/symptom-management/3156
- **Nausea & Vomiting**
cancercareontario.ca/en/symptom-management/3131
- **Hand-foot syndrome**
cancercareontario.ca/en/symptom-management/35066
- **Neutropenia**
cancercareontario.ca/en/symptom-management/35081
- **Low Platelet Count**
cancercareontario.ca/en/symptom-management/35076

Need this information in an accessible format?

1-877-280-8538, TTY 1-800-855-0511, info@ontariohealth.ca

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