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## After Colorectal Cancer Treatment

Get information about life as a cancer survivor, next steps, and what you can do to help.

### Living as a Cancer Survivor

For many people, cancer treatment often leads to questions about the next steps as a survivor or about the chances of the cancer coming back.

- [Living as a Colorectal Cancer Survivor](#)

### Cancer Concerns After Treatment

Treatment may remove or destroy the cancer, but it's very common to worry about the risk of developing another cancer.

- [Second Cancers After Colorectal Cancer](#)

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## Living as a Colorectal Cancer Survivor

For many people with colorectal cancer, treatment can remove or destroy the cancer. The end of treatment can be both stressful and exciting. You may be relieved to finish treatment but find it hard not to worry about cancer coming back. This is very common if you've had cancer.

For other people, colorectal cancer may never go away completely. Some people may

get regular treatment with chemotherapy, radiation therapy, or other treatments to try to control the cancer for as long as possible. Learning to live with cancer that does not go away can be difficult and very stressful.

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## Ask your doctor for a survivorship care plan

Talk with your doctor about developing a [survivorship care](#)<sup>1</sup> plan for you. This plan might include:

- A suggested schedule for follow-up exams and tests
- A list of possible late or long-term side effects from your treatment, including what to watch for and when you should contact your doctor
- A schedule for other tests you might need in the future, such as [early detection \(screening\) tests](#)<sup>2</sup> for other types of cancer
- Suggestions for things you can do that might improve your health, including possible ways to lower your chances of the cancer coming back, such as diet and physical activity changes
- Reminders to keep your appointments with your primary care provider (PCP), who will monitor your general health care, including your cancer screening tests

## Follow-up care after colorectal cancer

If you have completed treatment, you will likely have follow-up visits with your doctor for many years. It's very important to go to all of your follow-up appointments. During these visits, your doctors will ask if you are having any problems and may do exams and lab tests or imaging tests to look for signs of cancer returning, a new cancer, or treatment side effects.

To some extent, the frequency of follow-up visits and tests will depend on the [stage](#)<sup>3</sup> of your cancer and the chance of it coming back.

Almost any cancer treatment can have side effects. Some might last for a few days or weeks, but others may last months or years. Some side effects might not even show up until months after you have finished treatment. Your doctor visits are a good time to ask questions and talk about any changes or problems you notice or concerns you have.

### **Doctor visits and tests**

If there are no signs of cancer remaining, many doctors will recommend you have a physical exam and some of the [tests](#)<sup>4</sup> listed below every 3 to 6 months for the first couple of years after treatment, then every 6 months or so for the next few years. People who were treated for early-stage cancers may do this less often.

#### ***Colonoscopy***

In most cases, your doctor will recommend you have a colonoscopy about a year after surgery. If the results are normal, most people won't need another one for 3 years. If the results of that exam are normal, then future exams often can be about every 5 years. If the colonoscopy shows abnormal areas or polyps, the test may be needed more often.

#### ***Proctoscopy***

If you had rectal cancer that was removed with a [transanal excision](#)<sup>5</sup> (the surgery was done through your anus), your doctor will likely recommend you have a proctoscopy every 3 to 6 months for the first couple of years after treatment, then every 6 months or so for the next few years. This allows the doctor to get a close look at the area where the tumor was to see if the cancer might be coming back.

#### ***Imaging tests***

Whether or not your doctor recommends imaging tests will depend on the stage of your cancer and other factors. CT scans may be done regularly, such as once every 6 months to a year, for those at higher risk of recurrence, especially in the first few years after treatment. People who had tumors in the liver or lungs removed might be scanned every 3 to 6 months for the first few years.

#### ***Blood tests for tumor markers***

Carcinoembryonic antigen (CEA) is a tumor marker that can be found in the blood of

some people with colorectal cancer. Doctors check levels of this marker with a blood test before treatment begins.

If it's high at first and then goes down to normal after surgery, it can be checked again when you come in for follow-up (typically every 3 to 6 months for the first couple of years after treatment, then every 6 months or so for the next few years). If the CEA level goes up again, it might be a sign that the cancer has come back, and colonoscopy or imaging tests might be done to try to further investigate.

If tumor marker levels weren't elevated when the cancer was first found, they aren't likely to be helpful as a sign of the cancer coming back.

## Keeping health insurance and copies of your medical records

Even after treatment, it's very important to keep [health insurance](#)<sup>6</sup>. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

At some point after your cancer treatment, you might find yourself seeing a new doctor who doesn't know about your medical history. It's important to [keep copies of your medical records](#)<sup>7</sup> to give your new doctor the details of your diagnosis and treatment.

## Managing long-term side effects

Most [side effects](#)<sup>8</sup> go away after treatment ends, but some may continue and need special care to manage. For example, if you have a colostomy or ileostomy, you may worry about doing everyday activities. Whether your ostomy is temporary or permanent, a health care professional trained to help people with colostomies and ileostomies (called an **enterostomal therapist**) can teach you how to care for it. Learn more about managing and caring for an ostomy in [Colostomy Guide](#)<sup>9</sup> and [Ileostomy Guide](#)<sup>10</sup>.

Some people with colon or rectal cancer may have long-lasting trouble with chronic diarrhea, going to the bathroom frequently, or not being able to hold their stool. Some may also have problems with numbness or tingling in their fingers and toes (peripheral neuropathy) from chemo they received.

## Can I lower my risk of colorectal cancer progressing or coming back?

If you have (or have had) colorectal cancer, you probably want to know if there are

things you can do (aside from your treatment) that can help lower your risk of the cancer growing or coming back, such as getting or staying active, eating a certain type of diet, or taking nutritional supplements. Fortunately, research has shown there are some things you can do that might be helpful.

### **Getting to and staying at a healthy weight**

Being overweight or obese (very overweight) is known to increase the risk of **getting** colorectal cancer. However, it's not clear if having extra body weight raises the risk of colorectal cancer coming back or of dying from colorectal cancer. It's also not clear if losing weight during or after treatment can actually lower the risk of colorectal cancer recurrence.

Of course, getting to a healthy weight can have many other health benefits. But if you're thinking about losing weight, it's important to discuss this with your doctor, especially if you're still getting treatment or have just finished it.

### **Being active**

A good deal of research suggests that people who get regular physical activity after treatment have a lower risk of colorectal cancer recurrence and a lower risk of dying from colorectal cancer. Physical activity has also been linked to improvements in quality of life, physical functioning, and fewer fatigue symptoms. It's not clear exactly how much activity might be needed, but more seems to be better.

Some studies have also found that spending less time sitting or lying down is linked to a lower risk of dying from colorectal cancer.

It's important to talk with your cancer care team before starting a new physical activity program. This might include meeting with a physical therapist, too. Your team can help you plan a program that can be both safe and effective for you.

### **Eating healthy**

In general, it's not clear that eating any specific type of diet can help lower your risk of colorectal cancer coming back. Some studies suggest that colorectal cancer survivors who eat diets high in vegetables, fruits, whole grains, chicken, and fish might live longer than those who eat diets with more refined sugars, fats, and red or processed meats. But it's not clear if this is due to effects on colorectal cancer or possibly to other health benefits of eating a healthy diet.

Still, there are clearly health benefits to eating well. For example, diets that are rich in plant sources are often an important part of getting to and staying at a healthy weight. Eating a healthy diet can also help lower your risk for some other health problems, such as heart disease and diabetes.

## Dietary supplements

So far, no [dietary supplements](#)<sup>11</sup> have been shown to clearly help lower the risk of colorectal cancer progressing or coming back. This doesn't mean that none will help, but it's important to know that none have been proven to do so.

**Vitamin D:** Some research has suggested that colorectal cancer survivors with higher levels of vitamin D in their blood might have better outcomes than those with lower levels. Other research has suggested that people with colorectal cancer who have low vitamin D levels may have a worse survival than those with normal levels, but more studies are needed. But it's not yet clear if taking vitamin D supplements can affect outcomes.

**Calcium:** Some research has suggested that increasing calcium intake may lower the risk for recurrence of colon adenomas. Other research has suggested that people with early-stage colorectal cancer who take in a higher level of milk and calcium may have a lower the risk of dying. But it's not clear if calcium supplements can lower the risk of colorectal cancer coming back.

Dietary supplements are not regulated like medicines in the United States – they do not have to be proven to work (or even be safe) before being sold, although there are limits on what they're allowed to claim they can do. If you're thinking about taking any type of nutritional supplement, talk to your cancer care team first. They can help you decide which ones you can use safely while avoiding those that could be harmful.

## Aspirin

Many studies have found that people who regularly take aspirin have a lower risk of colorectal cancer and polyps. Some evidence suggests that starting aspirin after someone is diagnosed with colorectal cancer might lower the risk of the cancer coming back and the risk of dying from it. It is not clear, though, if this benefit is seen in all people with colorectal cancer.

Because aspirin can have serious or even life-threatening side effects, such as bleeding from stomach irritation or stomach ulcers, most experts recommend checking with your doctor before starting aspirin on a regular basis as a way to lower your risk of

recurrence.

## Alcohol

[Drinking alcohol](#)<sup>12</sup> has been linked with an increased risk of getting colorectal cancer, especially in men. But whether alcohol affects the risk of colorectal cancer recurrence is not as clear.

It is best not to drink alcohol. For people who do drink alcohol, they should have no more than 1 drink a day for women and no more than 2 drinks a day for men. This can help lower their risk of **getting** certain types of cancer (including colorectal cancer). But for people who have finished cancer treatment, the effects of alcohol on recurrence risk are largely unknown.

Because this issue is complex, it's important to discuss it with your health care team, taking into account your risk of colorectal cancer recurrence (or getting a new colorectal cancer) and your risk of other health issues linked to alcohol use.

## Quitting smoking

Research has shown that colorectal cancer survivors who smoke are more likely to die from their cancer (as well as from other causes). Aside from any effects on colorectal cancer risk, [quitting smoking can clearly have many other health benefits](#)<sup>13</sup>.

If you're thinking about [quitting smoking](#)<sup>14</sup> and need help, talk to your doctor, or call the American Cancer Society at 1-800-227-2345 for information and support.

## If the cancer comes back

If the cancer does return at some point, your treatment options will depend on where the cancer is, what treatments you've had before, and your overall health. For more information on how recurrent cancer is treated, see [Treatment of Colon Cancer, by Stage](#)<sup>15</sup> or [Treatment of Rectal Cancer, by Stage](#)<sup>16</sup>.

For more general information on recurrence, see [Understanding Recurrence](#)<sup>17</sup>.

## Could I get a second cancer after colorectal cancer treatment?

People who've had colorectal cancer can still get other cancers. In fact, colorectal cancer survivors are at higher risk for getting another colorectal cancer, as well as some

other types of cancer. Learn more in [Second Cancers After Colorectal Cancer](#).

## Emotional support

It is normal to feel [depressed, anxious, or worried](#)<sup>18</sup> when colorectal cancer is a part of your life. Some people are affected more than others. But everyone can benefit from help and support from other people, whether friends and family, religious groups, support groups, professional counselors, or others.

## Sexuality and feeling good about your body

Learning to be comfortable with your body during and after colorectal cancer treatment is a personal journey, one that is different for everyone. Some people may feel self-conscious if they have a colostomy or ileostomy as a result of treatment. Some people may have sexual problems as a result of the type of surgery they had for their cancer. Information and support can help you cope with these changes over time. Learn more in [Sexuality for the Adult Male With Cancer](#)<sup>19</sup> or [Sexuality for the Adult Female With Cancer](#)<sup>20</sup>.

## Hyperlinks

1. [www.cancer.org/cancer/survivorship/long-term-health-concerns/survivorship-care-plans.html](http://www.cancer.org/cancer/survivorship/long-term-health-concerns/survivorship-care-plans.html)
2. [www.cancer.org/cancer/screening.html](http://www.cancer.org/cancer/screening.html)
3. [www.cancer.org/cancer/types/colon-rectal-cancer/detection-diagnosis-staging/staged.html](http://www.cancer.org/cancer/types/colon-rectal-cancer/detection-diagnosis-staging/staged.html)
4. [www.cancer.org/cancer/types/colon-rectal-cancer/detection-diagnosis-staging/how-diagnosed.html](http://www.cancer.org/cancer/types/colon-rectal-cancer/detection-diagnosis-staging/how-diagnosed.html)
5. [www.cancer.org/cancer/types/colon-rectal-cancer/treating/rectal-surgery.html](http://www.cancer.org/cancer/types/colon-rectal-cancer/treating/rectal-surgery.html)
6. [www.cancer.org/cancer/financial-insurance-matters/managing-health-insurance.html](http://www.cancer.org/cancer/financial-insurance-matters/managing-health-insurance.html)
7. [www.cancer.org/cancer/survivorship/long-term-health-concerns/keeping-copies-of-important-medical-records.html](http://www.cancer.org/cancer/survivorship/long-term-health-concerns/keeping-copies-of-important-medical-records.html)
8. [www.cancer.org/cancer/managing-cancer/side-effects.html](http://www.cancer.org/cancer/managing-cancer/side-effects.html)
9. [www.cancer.org/cancer/managing-cancer/treatment-types/surgery/ostomies/colostomy.html](http://www.cancer.org/cancer/managing-cancer/treatment-types/surgery/ostomies/colostomy.html)

10. [www.cancer.org/cancer/managing-cancer/treatment-types/surgery/ostomies/ileostomy.html](http://www.cancer.org/cancer/managing-cancer/treatment-types/surgery/ostomies/ileostomy.html)
11. [www.cancer.org/cancer/managing-cancer/treatment-types/complementary-and-integrative-medicine/dietary-supplements.html](http://www.cancer.org/cancer/managing-cancer/treatment-types/complementary-and-integrative-medicine/dietary-supplements.html)
12. [www.cancer.org/cancer/risk-prevention/diet-physical-activity/alcohol-use-and-cancer.html](http://www.cancer.org/cancer/risk-prevention/diet-physical-activity/alcohol-use-and-cancer.html)
13. [www.cancer.org/cancer/risk-prevention/tobacco/benefits-of-quitting-smoking-over-time.html](http://www.cancer.org/cancer/risk-prevention/tobacco/benefits-of-quitting-smoking-over-time.html)
14. [www.cancer.org/cancer/risk-prevention/tobacco/guide-quitting-smoking.html](http://www.cancer.org/cancer/risk-prevention/tobacco/guide-quitting-smoking.html)
15. [www.cancer.org/cancer/types/colon-rectal-cancer/treating/by-stage-colon.html](http://www.cancer.org/cancer/types/colon-rectal-cancer/treating/by-stage-colon.html)
16. [www.cancer.org/cancer/types/colon-rectal-cancer/treating/by-stage-rectum.html](http://www.cancer.org/cancer/types/colon-rectal-cancer/treating/by-stage-rectum.html)
17. [www.cancer.org/cancer/survivorship/long-term-health-concerns/recurrence/coping-with-cancer-recurrence.html](http://www.cancer.org/cancer/survivorship/long-term-health-concerns/recurrence/coping-with-cancer-recurrence.html)
18. [www.cancer.org/cancer/survivorship/coping.html](http://www.cancer.org/cancer/survivorship/coping.html)
19. [www.cancer.org/cancer/managing-cancer/side-effects/fertility-and-sexual-side-effects/sexuality-for-men-with-cancer.html](http://www.cancer.org/cancer/managing-cancer/side-effects/fertility-and-sexual-side-effects/sexuality-for-men-with-cancer.html)
20. [www.cancer.org/cancer/managing-cancer/side-effects/fertility-and-sexual-side-effects/sexuality-for-women-with-cancer.html](http://www.cancer.org/cancer/managing-cancer/side-effects/fertility-and-sexual-side-effects/sexuality-for-women-with-cancer.html)

## References

American Cancer Society. *Cancer Treatment & Survivorship Facts & Figures 2023-2025*. Atlanta, Ga: American Cancer Society; 2023.

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Colon Cancer. V.1.2024. Accessed at [https://www.nccn.org/professionals/physician\\_gls/pdf/colon.pdf](https://www.nccn.org/professionals/physician_gls/pdf/colon.pdf) on Jan 29, 2024.

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Rectal Cancer. V.6.2023. Accessed at [https://www.nccn.org/professionals/physician\\_gls/pdf/rectal.pdf](https://www.nccn.org/professionals/physician_gls/pdf/rectal.pdf) on Jan 29, 2024.

Rock CL, Thomson CA, Sullivan KR, et al. American Cancer Society nutrition and physical activity guideline for cancer survivors. *CA Cancer J Clin*. 2022. Accessed at <https://acsjournals.onlinelibrary.wiley.com/doi/full/10.3322/caac.21719> on Jan 29, 2024.

Rock CL, Thomson C, Gansler T, et al. American Cancer Society guideline for diet and physical activity for cancer prevention. *CA Cancer J Clin*. 2020;70(4).

doi:10.3322/caac.21591. Accessed at  
<https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21591> on Jan 29, 2024.

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## Second Cancers After Colorectal Cancer

Cancer survivors can be affected by a number of health problems, but often a major concern is facing cancer again. Cancer that comes back after treatment is called a [recurrence](#)<sup>1</sup>. But some cancer survivors develop a new, unrelated cancer later. This is called a **second cancer**.

- [Follow-up after colorectal cancer treatment](#)
- [Can I lower my risk of getting a second cancer?](#)

Unfortunately, being treated for colorectal cancer doesn't mean you can't get another cancer. People who have had colorectal cancer can still get the same types of cancers that other people get. In fact, they might be at higher risk for certain types of cancer.

People who have had **colon cancer** can get any type of second cancer, but they have an increased risk of:

- A second colon cancer (This is different from the first cancer coming back.)
- Rectal cancer
- [Oral cavity and oropharynx](#)<sup>2</sup>
- [Stomach cancer](#)<sup>3</sup>
- [Small intestine cancer](#)<sup>4</sup>
- [Anal cancer](#)<sup>5</sup>
- [Bile duct cancer](#)<sup>6</sup>
- [Uterine cancer](#)<sup>7</sup>
- [Kidney cancer](#)<sup>8</sup>
- Cancer of the ureter (the tube that connects the kidney to the bladder)

People who have had **rectal cancer** can get any type of second cancer, but they are at

increased risk of:

- Colon cancer
- Small intestine cancer
- Anal cancer
- [Lung cancer](#)<sup>9</sup>
- [Vaginal cancer](#)<sup>10</sup>
- Kidney cancer

The increased risk with some of these cancers may be due to shared risk factors, such as diet, obesity, and physical activity. Genetics may also be a factor. For example, people with Lynch syndrome (hereditary non-polyposis colorectal cancer or HNPCC) have an increased risk of many of these cancers.

## Follow-up after colorectal cancer treatment

After completing treatment for colorectal cancer, you should still see your doctor regularly to look for signs the cancer has come back or spread. See [Living as a Colorectal Cancer Survivor](#) for information on the types of tests you might need after treatment.

Survivors of colorectal cancer should also follow the [American Cancer Society Guidelines for the Early Detection of Cancer](#)<sup>11</sup>, such as those for breast, cervical, lung, and prostate cancer.

For people who have had colorectal cancer, most experts don't recommend any additional testing to look for second cancers unless you have symptoms. One possible exception is in women who had colorectal cancer as a result of having Lynch syndrome, as these women are also at increased risk for [endometrial](#)<sup>12</sup> and some other cancers. If you have Lynch syndrome or [another inherited syndrome](#)<sup>13</sup>, it's important to talk to your doctor about your risks.

## Can I lower my risk of getting a second cancer?

There are steps you can take to lower your risk and stay as healthy as possible. For example, people who have had colorectal cancer should do their best to [stay away from tobacco products](#)<sup>14</sup>. Smoking might further increase the risk of some of the second cancers that are more common after colorectal cancer.

To [help maintain good health](#)<sup>15</sup>, colorectal cancer survivors should also:

- Get to and stay at a healthy weight.
- Keep physically active, and limit the time you spend sitting or lying down.
- Follow a healthy eating pattern that includes plenty of fruits, vegetables, and whole grains and limits or avoids red and processed meats, sugary drinks, and highly processed foods.
- It's best not to drink [alcohol](#)<sup>16</sup>. If you do drink, have no more than 1 drink per day for women or 2 per day for men

These steps may also lower the risk of some other health problems.

See [Second Cancers in Adults](#)<sup>17</sup> for more information about causes of second cancers.

## Hyperlinks

1. [www.cancer.org/cancer/survivorship/long-term-health-concerns/recurrence.html](http://www.cancer.org/cancer/survivorship/long-term-health-concerns/recurrence.html)
2. [www.cancer.org/cancer/types/oral-cavity-and-oropharyngeal-cancer.html](http://www.cancer.org/cancer/types/oral-cavity-and-oropharyngeal-cancer.html)
3. [www.cancer.org/cancer/types/stomach-cancer.html](http://www.cancer.org/cancer/types/stomach-cancer.html)
4. [www.cancer.org/cancer/types/small-intestine-cancer.html](http://www.cancer.org/cancer/types/small-intestine-cancer.html)
5. [www.cancer.org/cancer/types/anal-cancer.html](http://www.cancer.org/cancer/types/anal-cancer.html)
6. [www.cancer.org/cancer/types/bile-duct-cancer.html](http://www.cancer.org/cancer/types/bile-duct-cancer.html)
7. [www.cancer.org/cancer/types/uterine-sarcoma.html](http://www.cancer.org/cancer/types/uterine-sarcoma.html)
8. [www.cancer.org/cancer/types/kidney-cancer.html](http://www.cancer.org/cancer/types/kidney-cancer.html)
9. [www.cancer.org/cancer/types/lung-cancer.html](http://www.cancer.org/cancer/types/lung-cancer.html)
10. [www.cancer.org/cancer/types/vaginal-cancer.html](http://www.cancer.org/cancer/types/vaginal-cancer.html)
11. [www.cancer.org/cancer/screening/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html](http://www.cancer.org/cancer/screening/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html)
12. [www.cancer.org/cancer/types/endometrial-cancer.html](http://www.cancer.org/cancer/types/endometrial-cancer.html)
13. [www.cancer.org/cancer/types/colon-rectal-cancer/causes-risks-prevention/what-causes.html](http://www.cancer.org/cancer/types/colon-rectal-cancer/causes-risks-prevention/what-causes.html)
14. [www.cancer.org/cancer/risk-prevention/tobacco.html](http://www.cancer.org/cancer/risk-prevention/tobacco.html)
15. [www.cancer.org/cancer/risk-prevention/diet-physical-activity.html](http://www.cancer.org/cancer/risk-prevention/diet-physical-activity.html)
16. [www.cancer.org/cancer/risk-prevention/diet-physical-activity/alcohol-use-and-cancer.html](http://www.cancer.org/cancer/risk-prevention/diet-physical-activity/alcohol-use-and-cancer.html)
17. [www.cancer.org/cancer/survivorship/long-term-health-concerns/second-cancers-in-adults.html](http://www.cancer.org/cancer/survivorship/long-term-health-concerns/second-cancers-in-adults.html)

## References

American Cancer Society. *Colorectal Cancer Facts & Figures 2023-2025*. Atlanta, GA: American Cancer Society; 2023.

Mysliwiec PA, Cronin KA, Schatzkin A. New Malignancies Following Cancer of the Colon, Rectum, and Anus. In: Curtis RE, Freedman DM, Ron E, Ries LAG, Hacker DG, Edwards BK, Tucker MA, Fraumeni JF Jr. (eds). *New Malignancies Among Cancer Survivors: SEER Cancer Registries, 1973-2000*. National Cancer Institute. NIH Publ. No. 05-5302. Bethesda, MD, 2006. Accessed at [http://seer.cancer.gov/archive/publications/mpmono/MPMonograph\\_complete.pdf](http://seer.cancer.gov/archive/publications/mpmono/MPMonograph_complete.pdf) on Jan 29, 2024.

Rock CL, Thomson C, Gansler T, et al. American Cancer Society guideline for diet and physical activity for cancer prevention. *CA: A Cancer Journal for Clinicians*. 2020;70(4). doi:10.3322/caac.21591. Accessed at <https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21591> on Jan 29, 2024.

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