CADTH COVID-19 PANDEMIC

COVID-19 CADTH HEALTH TECHNOLOGY REVIEW

Synopsis for the Resumption of Colorectal and Cervical Cancer Screening

This report was published on November 2, 2020.

To produce this report, CADTH used a modified approach to the selection, appraisal, and synthesis of the evidence to meet decision-making needs during the COVID-19 pandemic. Care has been taken to ensure the information is accurate and complete, but it should be noted that international scientific evidence about COVID-19 is changing and growing rapidly.

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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Purpose and Context

The impact of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-20) — the COVID-19 pandemic — on global health care services has been unparalleled. Due to the increase in demand and the redeployment of services in the health care system, there have been many suspensions and reorganization of services. Non-urgent cancer treatment procedures such as routine screenings and annual surveillance among cancer survivors, low-suspicion screen recalls, and low-suspicion activities for elderly patients were delayed or postponed. There is considerable concern that when screening programs do resume, there may be a backlog of screen-positive patients who may be diagnosed at more advanced stages. Therefore, it is imperative that data be collected on how to effectively and safely resume screening services.

The purpose of this report is to provide a customized summary of evidence related to the resumption of cancer screening in the era of COVID-19. The information in this report is provided to help inform health care decision-making. Evidence is gathered from key sources identified through CADTH's Implementation Reference Search Service (IMPRESS), which is a rapid information inquiry service.

Process

A targeted PubMed literature search was conducted by an information specialist, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The search was limited to English-language documents published between January 2018 and August 12, 2020.

Key sources from scientific evidence, clinical guidelines, recommendations, national standards and guideline groups that were directly relevant to the requestor's questions were included. Bibliographic searches were not conducted.

Members of CADTH's Implementation Support and Knowledge Mobilization team screened the literature and selected those sources deemed relevant to the questions posed for inclusion in this report. Literature was reviewed, but not critically appraised, to assess the quality of the studies and resources included. CADTH's Implementation Support and Knowledge Mobilization team provided a brief interpretation for each source to assist the reader.

Question

What are jurisdictions, Canadian or international, doing for the resumption of cancer screening services during COVID-19?

Key Messages

- To prevent diagnosis at later stages, screening for cancer should be resumed adhering to COVID-19 protocols.

For Colorectal Cancer Screening:

- Colonoscopy demand should be distributed over time by stratifying candidates according to individual colorectal cancer risk. Endoscopies, which can be deferred for low-risk individuals should be deferred. If possible, separating the upper and lower gastrointestinal (non-aerosol–generating) investigations is an option for consideration.
- At-home testing is preferred. Options could include fecal immunochemical tests or multi-target stool DNA tests.
- Fecal immunochemical tests can be picked up by patients for at-home testing. It is suggested that a threshold of 10 mcg Hb/g feces (a measure of blood in the stool) should be further investigated and at a threshold of 150 mcg Hb/g feces should be prioritized for colonoscopy.
- Additional suggestion on low-cost interventions to minimize the risk of COVID-19 transmissions should be considered. These include water-aided colonoscopy, water immersion, and water exchange procedures. Other options for colorectal cancer screening include colon capsule endoscopy or CT colonography.
- A critical appraisal of these sources was not conducted.

For Cervical Cancer Screening:

- Canadian and international guidance indicates that screening should be based on risk and there may be a potential to have individuals self-collect samples at home.
- Telehealth services should be provided for at-risk or remote populations to inform on the availability of screening procedures.
- Jurisdictions are asked to consider switching to primary HPV testing.
- Individuals with two consecutive cytologic abnormalities should be referred to colposcopy.
- A critical appraisal of these sources was not conducted.

The Evidence to Date

A total of 57 citations were retrieved through the literature search, as noted in Appendix 1. After the initial screening of abstracts and titles, 37 potentially relevant documents were identified for full-text review. Of these potentially relevant documents, 29 documents were relevant to the question and have subsequently been summarized. The overview of the type of document can be found in Table 1.

Included documents are further divided by guidance on the resumption of either colorectal cancer or cervical cancer screening. Details on this, as well as a high-level summary of each source, is found in Table 2.

Table 1: Overview of Type of Documents Identified

Type	Amount
Original articles	4
Literature review	4
Rapid review	2
Guidance documents	9
Commentary/editorial	6
Websites	4

Table 2: Canadian and International Statements on the Resumption of Cancer Screenings During COVID-19

Title of document	Jurisdiction	Key message	Date on source
Colorectal cancer screening			
The impact of COVID-19 pandemic in the colorectal cancer prevention[1]	Italy	Overviews the following: CRC and screening programs in the average-risk population; surveillance in inflammatory bowel disease; the limitations of CRC prevention secondary to COVID-19 (e.g., suspension of first-level screening tests, including FOBT); what the national health systems can expect (i.e., impacts of pausing screening procedures); and practical considerations for CRC prevention post-COVID-19; for example: • colonoscopy demand should be distributed over time by stratifying the candidates according to the individual CRC risk • promote among general practitioners a questionnaire for the risk stratification of the CRC • increasing knowledge of guidelines for patients with inflammatory bowel disease • anticipate endoscopies that can be deferred, while postponing others following precise indications	June 2020
As screening declines amid COVID-19, at-home stool DNA test for CRC gets high adherence in Medicare population[2]	US	Covers the following: that at-home CRC screening tests with high adherence are of great relevance during the pandemic (highlights mt-sDNA adherence study results); how mt-sDNA might be delivered during the pandemic; offering patients screening choices, including mt-sDNA and the need for follow-up after a positive stool-based screening test; and prioritizing endoscopy procedures based on the level of medical urgency	June 12, 2020
COVID-19 and Cancer Screening - Information for patients and health professionals[3]	Canada — BC Cancer Screening	Colon screening information provided on the web page: • FIT kits are available for pick-up at labs and can be done at home. • If the individual has picked up a FIT and completed it, they should return the used FIT kit to the lab for safe disposal and let the lab know that the specimen was collected before the suspension. The individual will be provided a new FIT kit to repeat the test. • Health authorities are re-booking procedures that were previously cancelled due to the COVID-19 situation.	Not Available

Title of document	Jurisdiction	Key message	Date on source
		• Patients with cancelled appointments at health authority facilities will be contacted directly by the facility regarding re-booking. • Patients with symptoms should be referred directly to a specialist for assessment. FIT is not required.	
COVID-19 and the Global Impact on Colorectal Practice and Surgery[4]	International Society of University Colon and Rectal Surgeons (ISUCRS)	The present study administered a survey to global colorectal surgeons to assess the effects of COVID-19 on colorectal practice and surgery. The questionnaire does not focus on cancer screening services; however, the article makes the following statement in the discussion section: "Non-invasive stool and blood tests to excluded colorectal cancer or inflammatory bowel disease can assist in the prioritization for a confirmatory diagnostic invasive test. Patients with concerning symptoms for colorectal cancer could be offered a fecal immunochemical test (FIT) or multitarget stool DNA test (FIT-DNA), if they do not have rectal bleeding. Both of these tests have proven excellent accuracy for excluding colon cancer."	June 7, 2020
Covid-19 pandemic impact on colonoscopy service and suggestions for managing recovery[5]	Endoscopy International Open; participating countries include the US, UK, Japan, the Netherlands, Germany, and Italy	Article proposes considering adopting low-cost interventions to minimize the risk of transmitting the Covid-19 virus, decreasing the number of incomplete or low-quality procedures that require rescheduling, and minimizing the need for anesthesia medication and support. Suggestions discussed: 1) Water-aided colonoscopy, water immersion, and water exchange. 2) Predictive scores for poor preparation are not being used in clinical practice; however, they could potentially assist in predicting which patients are at risk for poor preparation. A tailored bowel preparation could be recommended for them. 3) Careful attention to reviewing images while the patient is present and attention to patient positioning. 4) Approaches to decrease patient anxiety (hypnosis, listening to music).	June 24, 2020
Molecular-based Alternatives for Colorectal Cancer Screening during the COVID-19 Pandemic[6]	US	DNA-based stool sample tests may be useful for colorectal cancer screening when a colonoscopy is not available. The aim of this review is to demonstrate the potential utility of enhanced DNA-based stool testing for colorectal cancer screening and diagnosis during crises that strain available health care resources, such as the current COVID-19 pandemic. This review shows that DNA-based stool sample tests have the potential to enable colorectal cancer screening to prioritize patients to elective colonoscopy procedures, the continued delay of which, during the COVID-19 pandemic, has already placed a burden on future elective procedures.	May 28, 2020
Navigating the storm of COVID-19 for patients with suspected bowel cancer[7]	UK	The authors suggest that FIT may have an important role in colorectal cancer screening during the pandemic. A FIT threshold for high-risk patients was suggested. FIT-positive patients over a threshold of 10 mcg Hb/g feces should be noted for further investigation while greater than 150 ug Hb/g feces should be prioritized for colonoscopy.	June 10, 2020

Title of document	Jurisdiction	Key message	Date on source
COVID-19 Clinical Insights for Our Community of Gastroenterologists and Gastroenterology Care Providers[8]	US — American College of Gastroenterology	Provides some generic guidance on screening patients for COVID and PPE precautions. Most specific recommendations for colorectal cancer screening are copied, as follows: • Recommended to strongly consider rescheduling elective non-urgent endoscopic procedures. However, some non-urgent procedures are higher priority and may need to be performed (examples include cancer evaluations, prosthetic removals, evaluation of significant symptoms). • Recommended a pre-screen for all patients for high-risk exposure or symptoms. Patients should be asked about their history of fever or respiratory symptoms, family members or close contacts with similar symptoms, any contact with a confirmed case of COVID-19, and recent travel to a high-risk area. • Recommending to consider offering elective office visits remotely, via telemedicine if possible, in order to decrease the office density of patients and provide needed care to patients who are less willing or unable to travel.	March 15, 2020
FIT Testing Resumed in Alberta – June 17, 2020[9]	Canada —Alberta	As of June 15th, FIT testing has resumed in Alberta.	June 17, 2020
Faecal immunochemical testing for adults with symptoms of colorectal cancer attending English primary care: a retrospective cohort study of 14 487 consecutive test requests[10]	UK	A review of the diagnostic accuracy of FIT. The authors concluded that “a FIT threshold of ≥10 µg Hb/g faeces would be appropriate to triage adult patients presenting to primary care with symptoms of serious colorectal disease. FIT may be used to reprioritise patients referred with colorectal cancer symptoms whose investigations have been delayed by the COVID-19 pandemic.”	July 17, 2020
Supporting COVID19 recovery: Patient prioritisation using symptomatic FIT testing[11]	UK — Cheshire & Merseyside Endoscopy Network	"The British Society of Gastroenterology (BSG), NHS England and NHS Improvement have advised that alternative pathways for diagnostic testing, including the use of FIT, be considered by clinical teams. The BSG has advised that TWW (Urgent Two Weeks Wait) referrals should be risk assessed on a case-by-case basis with endoscopic procedures being reserved for those at greatest risk and all patients added to a deferred waiting list, some of which would need reassessing to determine if their cancer risk has changed by telephone triage. NHSE has released guidance on how FIT testing can be used to triage patients for investigation during COVID19 and recovery from the crisis. This guidance has been incorporated in to this document." The purpose of guidance is to support providers to prioritize TWW referrals using the following to inform decisions: patient-reported symptoms together with blood test results and FIT. The document includes the following sections: considerations about referral, reporting, and patient management; patient categorization (how to triage	May 4, 2020

Title of document	Jurisdiction	Key message	Date on source
		patients); service provision; what to do with FIT-positive participants; safety nettings; safety instructions for staff; cancer waiting time guidance; evaluation and data monitoring; and supportive information (e.g., FIT testing, sFIT pathway, etc.).	
COVID-19: Framework for the Resumption of Endoscopic Activities from the Canadian Association of Gastroenterology[12]	Canada — Canadian Association of Gastroenterology	Divides specific endoscopy activities into tiers — must always be performed, should be performed, could be performed, should be deferred High likelihood of colon cancer based on imaging, physical examination, or: • symptoms — **should be performed** • positive FIT — **could be performed** • screening — **should be deferred**	April 2020
CT colonography's role in the COVID-19 pandemic: a safe(r), socially distanced total colon examination[13]	US	Advocates for the use of CT colonography in place of colonoscopy to screen for colorectal cancer. Benefits of this procedure include: • the ability to physical distance during the procedure • decreased use of PPE • no sedation required — therefore, less staff members interacting with patients, patients can drive themselves home after the procedure and they do not need to remain in a recovery room for monitoring after the procedure	July 18, 2020
COVID-19 Rapid Report. Restarting gastrointestinal endoscopy in the deceleration and early recovery phases of COVID-19 pandemic: Guidance from the British Society of Gastroenterology[14]	UK — British Society of Gastroenterology Endoscopy Quality Improvement Programme	The British Society of Gastroenterology Endoscopy Quality Improvement Programme has produced guidance on how a restart can be safely delivered. Key recommendations include the following: all patients should have the need for endoscopy assessed by senior clinicians and prioritized according to criteria we have outlined; once the need for endoscopy is confirmed, patients should undergo telephone screening for symptoms using systematic questionnaires; all outpatients should undergo RT-PCR testing for COVID-19 virus one to three days prior to endoscopy; and PPE should be determined by the patient, the nature of the procedure, and the results of testing.	2020
Colon capsule endoscopy: an innovative method for detecting colorectal pathology during the COVID-19 pandemic?[15]	UK	This is an original article; summarizes information on colon capsule endoscopy and how the procedure could be used to decrease the demand for colonoscopy. The authors suggest it could be used as a triage tool to more appropriately refer patient colonoscopy. They note that colon capsule endoscopy (CCE) is an innovative technology for visualizing the colon and it can be carried out in the community, reducing hospital attendance. Telephone consultations are used for pre-procedure patient checks and to explain the bowel preparation regime." The procedure can be carried out by one health care professional in a simple clinic room.	May 13, 2020
Letter to Chief Executives of all NHS trust and foundation trusts[16]	UK	The letter notes that increasing endoscopy capacity to normal levels, including through the release of endoscopy staff from other duties, separating upper and lower GI (non–aerosol-generating) investigations, and using CT colonography to substitute, where appropriate, for	July 31, 2020

Title of document	Jurisdiction	Key message	Date on source
		colonoscopy are options to effectively screen during the COVID-19 era.	
Cervical cancer screening			
COVID-19 and Cancer Screening — Information for patients and health professionals[17]	Canada — BC Cancer Screening	Primary care providers can expect standard lab processing times and normal capacity for downstream colposcopy procedures throughout the province. The Cervical Cancer Screening Laboratory continues to process any Pap samples it receives and sends primary care providers the results. Colposcopy clinics are accepting referrals as normal and booking patients for follow-up. Patients who have been recommended for colposcopy should be referred. Patients with significant symptoms including post-coital bleeding, persistent intermenstrual bleeding, and/or a persistent vaginal discharge that cannot be explained by benign causes such as infection should have a speculum examination by someone with experience in cervical disease. Referral to a colposcopist is appropriate and may be expedited if the clinical suspicion is high. A Pap test is not required for referral.	Not Available
Guidance for managing National Cervical Screening Program (NCSP) participants during the COVID-19 Pandemic[18]	Australia	Guidelines for cervical cancer screening based on new screener (25+); routine screeners; and overdue or never screened. Included recommendations for follow-up and testing based on risk. Includes self-collection parameters. Guidance for symptomatic individuals: should be clinically assessed and investigated according to the clinical management guidelines. New screener: individuals who have received the HPV vaccine are low risk and screening can be rescheduled for three to six months out. Routine screener: individuals should be screened every five years as per the NCSP. However, individuals who are 30 years or older and have never done a cervical cancer test should be offered one without delay.	April 8, 2020
Cervical cancer screening during the COVID-19 Crisis: Africa view point[19]	Africa viewpoint — University of Embu, Embu, Kenya.	Telehealth services such as phone calls, text messages, and WhatsApp can be used as counselling services for at-risk and remote populations. This will aid in shared decision-making on screening and provide information on when and where screening services will be provided.	May 12, 2020
Special ambulatory gynecologic considerations in the era of coronavirus disease 2019 (COVID-19) and implications for future practice[20]	US (Baltimore, Maryland)	This reviews approaches to managing a variety of gynecological conditions during COVID but has a subsection specific to cervical cancer screening. It describes the recommendations of the ASCCP, which includes criteria for triaging patients who require colposcopy for the assessment of abnormal cells. It also discusses ASCPP endorsement for switching to primary HPV testing.	June 6, 2020
Cervical screening[21]	Scotland	As of March 2020, HPV testing has replaced cervical smear. Invitations first will be to non-routine tests for individuals screened more often.	July 15, 2020

Title of document	Jurisdiction	Key message	Date on source
		FAQ for sample takers: http://www.healthscotland.scot/media/2883/hpv-faq-for-sample-takers-november2019-english.pdf Also, there's a "cervical screening toolkit" to improve attendance at appointments: http://www.healthscotland.scot/media/2230/cervical-screening-toolkit.pdf	
How the Coronavirus Disease-2019 May Improve Care: Rethinking Cervical Cancer Prevention[22]	US	This opinion article is specific to cervical cancer, but the suggestions could be generalized to other cancer screenings. The author provides suggestions for reimaging care to resume and maintain services, including a discussion of: • increasing the uptake of the HPV vaccination and considering combining the vaccine with other vaccines • primary HPV screening and self-sampling • the implementation of risk-based screening • making use of virtual visits to provide counseling and education.	July 1, 2020
NHS Cervical Screening Programme Restoration Guidance [23]	UK — Public Health England	This NHS Public Health England — NHS Cervical Screening Programme Restoration Guidance document provides comprehensive guidance to traditional screening programs include recommendations around staff training, PPE, and colposcopy approaches. It contains implementation checklists and offers screening assessments as alternative approaches. Of note, this guidance provides traditional screening approaches but no change in technologies, staffing, processes, and PPE.	May 14, 2020
General guidance addressing both colorectal and cervical cancer screening			
Maintaining essential health services: operational guidance for the COVID-19 context[24]	WHO guidance	Guidelines outlined (see p 34): Modify and consider temporarily delaying cancer screening programs, particularly those that are facility based. Consider promotion of home-based, self-sampling for cervical cancer (HPV test) and colorectal cancer in settings with appropriate infrastructure and capacity. Maintain communication with and diagnostic follow-up for those who have a screening test. Remote support can be utilized for counselling after a negative test and planning for management after a positive test. Screening for high-risk individuals (such as cervical cancer screening for women living with HIV) may be prioritized.	June 1, 2020
Should I Get Screened for Cancer During COVID-19?[25]	Blog Insight — Dana-Farber Cancer Institute	American Gastroenterological Association says that colonoscopies can be resumed when there has been a sustained reduction in the rate of new COVID-19 cases in the relevant geographic area for at least 14 days. Dana-Farber Institute says: "Higher-risk patients especially should consider screening in upcoming months," and average-risk patients in the fall. Recommends employing distancing and PPE precautions when resuming screening tests; e.g., masks to be worn by all patients and staff, plexiglass barriers, intensified deep cleaning, and so on.	June 20, 2020

Title of document	Jurisdiction	Key message	Date on source
Oncology Rounds - The 'new normal': 7 questions program leaders are asking about care amid Covid-19[26]	US	Question 6: "Organizations are eager to get cancer screenings back up and running to minimize the number of late-stage diagnoses and poor outcomes. In fact, most organizations are starting up screening earlier than anticipated—some at the beginning of May. There seemed to be an even split between organizations starting with lung cancer screening and then phasing in mammography, and vice versa. To make this phase-in period work, here are the tactics organizations using: • **Screening before the screening:** Staff call patients in advance of their appointments to ask about Covid-19 symptoms, remind them to bring their masks, and inform them of their new protocols. They take the patient's temperature upon arrival, just like all other entrants. • **Getting rid of the waiting room:** Patients wait in their cars before their appointments, and staff call or text them when they can enter the facility to reduce the time they spend waiting inside. • **Scheduling more time in between appointments:** To reduce wait times and build in enough time for sterilization and cleaning, radiology departments are scheduling appointments every 30 minutes, rather than every 15 minutes as previously done. • **Communicating with patients:** When screenings start back up, it is critically important to make sure people feel safe and comfortable coming back into the hospital or screening facility. One program did a "soft" launch for mammography where they reached out to all scheduled patients in advance—and every patient who was contacted ended up coming in for their exam."	May 13, 2020
COVID-19 Rapid Evidence Profile #7 - What are the international lessons learned from re-opening non-COVID-19 activities in hospitals?[27]	Canada — rapid evidence, McMaster University (Kingston, Ontario)	Changing cancer treatment procedures: • "Delaying or postponing non-urgent cancer-related appointments, particularly at the screening level (for example, annual surveillance among cancer survivors, low-suspicion screen recalls, and low-suspicion activities for elderly patients) (last updated 8 May 2020) • Triaging cancer services by considering the potential for cure, relative benefit of radiation and chemotherapy, life expectancy, and performance status (; last updated 6 April 2020) • Implementing telephone triage for new cancer referrals and consider establishing separate cancer hubs to provide non-urgent procedures for patients while maintaining their separation from COVID-19-related activities • Using home/offsite review by radiologists for breast-cancer screening, however, 5-mega pixel screens are required for primary interpretation "Lessons learned from other countries • In New Zealand, Cancer screening services have largely been resumed with the exception of bowel screening, and no screening will be provided to those over the age of 70 or with existing medical conditions	May 17, 2020

Title of document	Jurisdiction	Key message	Date on source
		• In the UK, telephone triage was implemented for new cancer referrals to reduce hospital admissions and cancer hubs were used to provide non-urgent procedures for patients ○ Continuing or resuming breast imaging during the COVID-19 pandemic requires PPE for patients and staff, clear roles of offsite radiologist review and necessary equipment, postponement of low priority imaging, and performance of high priority imaging for patients with and without concern for COVID19 (Canadian Society of Breast Imaging and Canadian Association of Radiology; last updated 2 April 2020) • Guidelines developed using some type of evidence ○ Consider delaying or postponing nonurgent appointments, screening, diagnosis/staging, management procedures for patients with cancer but carefully weigh the related risks and benefits, using telemedicine for appointments, consultations, and follow-up visits (DynaMed; last updated 8 May 2020)"	
COVID-19 Cancer Screening Tip Sheet for Primary Care Providers[28]	Canada — Ontario Health	Recommends gradual and prioritized resumption of services including resumption of mailing test kits to patients (see page 3 and page 4). Send FIT requisitions for: • average-risk people older than age 60 who have never been screened for CRC • average-risk people with previous unsatisfactory FIT results • eligible average-risk people awaiting organ transplant Refer to colonoscopy: • people with abnormal FIT results • people at an increased risk because of a family history of CRC in a first-degree relative who was diagnosed before the age of 60 (8) • people at increased risk because of a family history of CRC in two or more first-degree relatives, regardless of age OCSP • people having routine screening (i.e., every three years) whose most recent screening result was a low grade (LSIL or ASCUS) should be rescreened with cytology in 12 months • individuals with two consecutive cytologic abnormalities should be referred to colposcopy • the groups that follow are at elevated risk and should be screened annually: ○ discharged from colposcopy with persistent low-grade cytology ○ discharged from colposcopy with an HPV-positive test and normal or low-grade cytology ○ immunocompromised (organ transplant, immunosuppressive medications, HIV/AIDS) ○ there is no need to delay screening for people at average risk who are due for screening if otherwise providing an in-person consult and if screening is feasible	June 30, 2020

Title of document	Jurisdiction	Key message	Date on source
Preventive Cancer Screenings during COVID-19 Pandemic[29]	US — EPIC Health Research Network	"Screening appointments in March 2020 decreased by 86-94% as compared to mean volumes over January 1, 2017 through January 19, 2020. This decrease in preventive care appointments coincides with the occurrence of the COVID-19 pandemic."	May 1, 2020

ASCCP = American Society for Colposcopy and Cervical Pathology; CRC = colorectal cancer screening; FIT = fecal immunochemical test; FOBT = fecal occult blood test; GI = gastrointestinal; LSIL = low-grade squamous intraepithelial lesion; mt-sDNA = multi-target stool DNA; NCSP = National Cervical Screening Program; NHS = National Health Service; OCSP = Ontario Cervical Screening Program; PPE = personal protective equipment; RT-PCR = reverse transcription polymerase chain reaction; TWW = two weeks' wait.

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