ONCORE NUTRITION

NUTRITION IN COLORECTAL CANCER

What every nurse can do -

within scope, from day one

Considerations for individuals under 50 diagnosed with colorectal cancer

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oncorenutrition.com

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Nutrition is *everyone's business.*

FOR THE PATIENT

Their nutrition is theirs to own.

The food they eat. The protein they prioritise. The muscle they keep on their frame. We are guides, not gatekeepers.

FOR HEALTH PROFESSIONALS

Not the dietitian's job alone.

The GP who screens. The surgeon who plans for prehab. The oncologist who asks about weight. The nurse who notices the lunch tray. Every one of us.

MEET MICHAEL

35 yo. Accountant. Father of one. Wife pregnant.

PATIENT SNAPSHOT

Diagnosed: Stage III sigmoid adenocarcinoma

History: Two GP visits across 6 months - bleeding attributed to haemorrhoids before scope

Planned for: Low anterior resection

Followed by: Adjuvant FOLFOX

BMI: 28 (overweight)

Active: Previously active - now an occasional walk or gym session every 2-3 weeks

Family: 3-year-old at home, second child due in 12 weeks

WHAT WE DON'T SEE

6 kg

lost in the months before diagnosis

Muscle loss

he didn't notice until he had to carry his daughter home

Nutrition conversation

No-one has had one with him yet

The invisible problem

40–60%

of CRC patients **malnourished**

30–60%

sarcopenic – often ***invisible*** to the naked eye

~15,000

new CRC diagnoses per year in Australia *(AIHW)*

Only 27% of CRC patients receive dietetic intervention – and <50% of those identified as malnourished ever see a dietitian.
Most are slipping through the cracks.

BMI lies. Nutrition assessment doesn't.

A representative example:

	Patient A	Patient B
BMI	**30**	**30**
CT · SMI (cm^2/m^2)	**52** ***normal***	**38** ***sarcopenic***
BIA · FFMI (kg/m^2)	**19** ***normal***	**14** ***low***
Dietary intake	**Meeting targets** *protein ~1.2 g/kg, balanced*	**Poor nutritional quality** *low protein, high CHO, low plant diversity*
PG-SGA	**A** ***well nourished***	**B** ***malnourished***

Same BMI. Same weight. ***Different clinical trajectory.***

CT confirms it. BIA flags it. A dietary history predicts it. Dietitian assessment validates it.

Sarcopenic obesity – low muscle underneath an overweight BMI – **higher risk than either phenotype alone.**

Prado et al., Lancet Oncol 2008

Body composition can predict outcomes

across every treatment modality

SURGERY

↑ Leak ↑ SSI

Sarcopenia independently predicts anastomotic leak, surgical site infection, length of stay, readmission, and time to adjuvant.

Gillis 2018 meta-analysis;
ESPEN 2021 Surgical

CHEMOTHERAPY

↓ Dose intensity

Sarcopenic obesity predicts chemo toxicity and mortality in GI cancers - independent of BMI. Drives dose reductions and delays.

Prado 2008
Martin 2013
Caan C-SCANS 2017

RADIOTHERAPY

↑ RT weight loss

Baseline body composition predicts pelvic RT tolerance in rectal cancer - particularly weight loss during chemoradiation.

Chen et al., Cancer Med 2016;
body comp scoping review 2025

Sarcopenia in CRC associated with significantly higher all-cause mortality (Hu et al.)

Malnutrition and sarcopenia

aren't side notes - they shape outcomes.

1 in 3 colorectal cancer patients in Victorian cancer services is malnourished.

Marshall et al, Clin Nutr 2019 · COSA position statement on cancer-related malnutrition & sarcopenia

It changes who survives – and how well they live.

Hu et al, Front Oncol 2023 (sarcopenia: HR 1.72 for overall survival in CRC) · Bossi et al, Nutrients 2021

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FOR YOUR PATIENTS

Your nutritional status significantly impacts your treatment tolerance, complications, outcomes and survival.

FROM ONCORE NUTRITION

THE UNDER-50 PATIENT

Younger onset. A different baseline. A different conversation.

Diagnostic delay

Symptoms attributed to haemorrhoids, IBS, stress - later-stage at diagnosis

Identity & body image

Decades of post-treatment life ahead; restriction messaging lands hard

Family circumstances

Young children, working partners, no aged-care safety net

Nutritionally engaged

Stronger opinions; more likely to bring a diet philosophy in

Exercise-active baseline

Want to maintain or return to running, gym, sport - fuel them, don't stop them

Long survivorship horizon

CV health, bone density, second-cancer risk over 50+ years

Same disease. Different stakes. Different conversation.

Sarcopenic obesity,

and muscle as metabolic reserve

SARCOPENIC OBESITY • Low muscle underneath an overweight BMI – higher risk than either phenotype alone.

Muscle is what you spend when you're sick.

The patient with more in the bank tolerates more.

NOW

Muscle preservation

is a current priority

LATER

With muscle preserved

fat loss is more achievable

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FOR YOUR PATIENTS

Maintaining your weight (and muscle mass) during treatment matters – now for treatment tolerance and outcomes, and later for your ability to lose fat.

FROM ONCORE NUTRITION

Nutritional requirements

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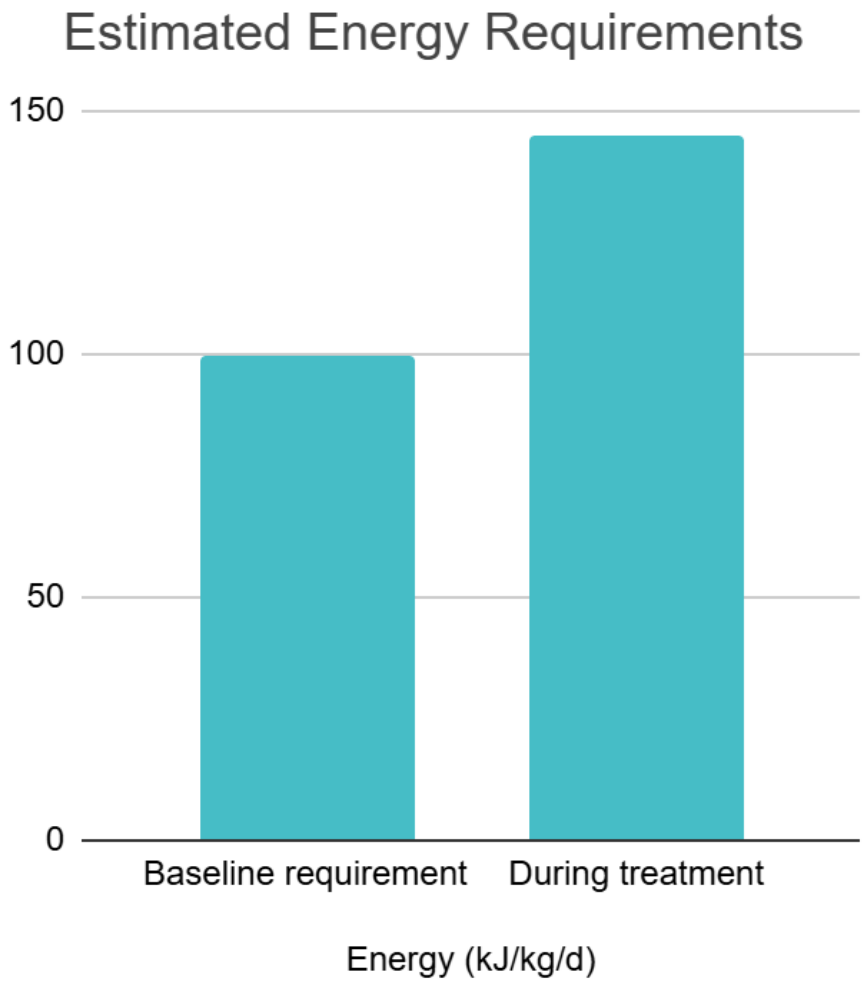

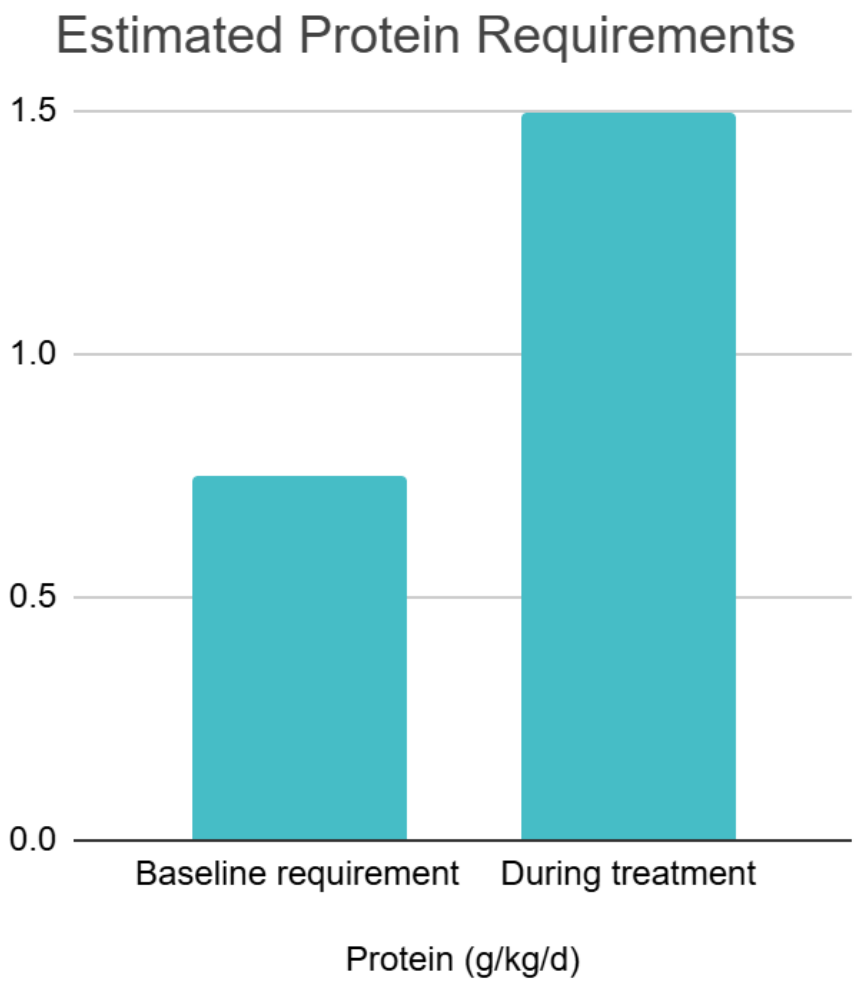

Weight Loss, Malnutrition & Sarcopenia

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Why it happens

Protein catabolism during cancer treatment

COMBINED WITH

Inadequate protein and/or energy intake

Immediate effects

- Lean muscle mass breakdown
- Reduced strength & physical function
- Lower treatment tolerance & immune function
- Slower wound healing & recovery

Long-term consequences

- Slowed metabolism - increased risk of weight gain as fat post-treatment
- Metabolic syndrome & chronic disease risk elevated
- Impaired long-term survivorship outcomes

Malnutrition & sarcopenia can occur in people of ALL body sizes - BMI alone is not a reliable indicator

NO CT REQUIRED

What you can see at the bedside.

01

Weight history

Not just current weight - pre-diagnosis weight, rate of loss, intentional or not

02

Visible muscle loss

Temples, clavicles, hands, calves. Loose-fitting clothes patients used to fill out

03

Functional change

Stairs feel harder. Lifting their own child feels harder. Grip on the cup feels weaker.

04

Intake observation

"Tell me about a typical day's food" - open question, not "have you been eating?"

Leave the formal assessment to the dietitian and EP/physio. Your intuition is the most valuable addition.

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FOR YOUR PATIENTS

You may not have control over your treatment plan, but you do get to control what you put in your mouth.

FROM ONCORE NUTRITION

Protein

from diagnosis through treatment

1.2–1.5

g/kg/day protein

Why protein matters

- Preserves lean mass
- Improves treatment tolerance
- Reduces catabolic stress
- Target ~25–30 g per eating occasion to drive muscle protein synthesis
- Up to 2.0 g/kg/day in highly catabolic states (e.g. cachexia, sepsis)
- Look for protein dense food sources and supplements to optimise intake

Oral nutritional supplements

as a clinical tool. If not you, then who?

Available at the supermarket and over the counter.
Not "a milkshake." A clinically formulated bridge for the energy and protein gap.

Standard polymeric

First-line. ~1.0-1.5 kcal/mL with balanced macronutrients. Familiar to most patients.

High-protein / high-energy

When protein targets are the priority or volume tolerance is limited.

Specialty

Fibre-containing, peptide-based for malabsorption, immune-modulating peri-operatively, diabetes-friendly.

Three triggers - any one is enough.

1

Intake below ~75% of usual

For more than a few days. Not a one-off bad day. A pattern.

2

Documented weight loss

Any unintentional loss. ≥5% is already malnourished - earlier is better.

3

High-risk presentation

Pre-treatment, pre-op, before high-toxicity regimens, post major resection, ostomy formation.

Starting a standard ONS while a dietetic referral is pending is within scope.
BMI hides risk. Even patients in larger bodies eating poorly during treatment lose muscle – and sarcopenic obesity carries **>50% higher mortality risk**.

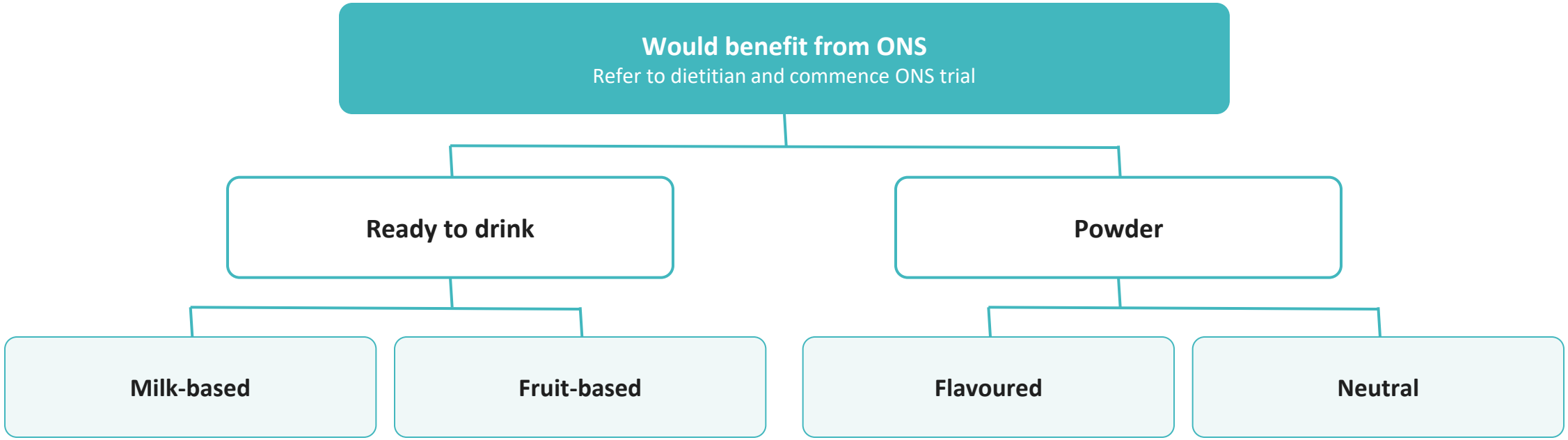
Early ONS supports muscle preservation regardless of BMI.

Liu et al., JAMA Netw Open 2024;7(6):e2417115. ESPEN Clinical Nutrition in Cancer 2021.

ONS DECISION FLOW

Choosing an oral nutrition supplement

Match the format to the patient – then always loop in a dietitian



Always refer to a dietitian once an ONS is started – for ongoing review and titration

No options suitable, desired or tolerated? – refer to a dietitian to explore alternative options

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FOR YOUR PATIENTS

We can use nutrition to help manage your side effects and prevent them from worsening.

FROM ONCORE NUTRITION

Ugh.


The face you make when they tell you...
The chemo will cause either diarrhoea or constipation

Nutrition impact symptoms across the GI tract

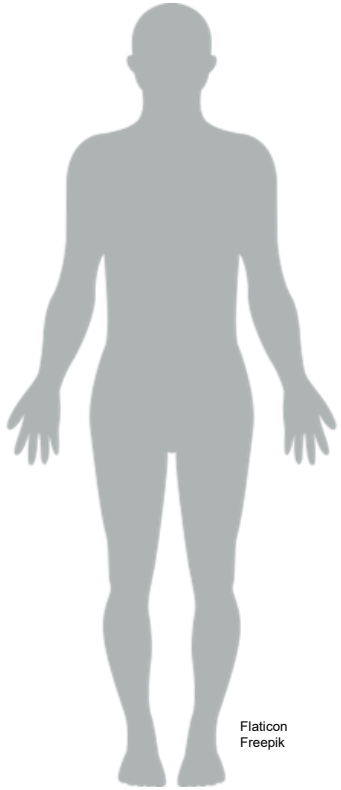
Bowel symptoms often travel with company

MOUTH & UPPER GI

Dysgeusia – altered taste
Xerostomia, thick saliva
Oral thrush
Mucositis, oesophagitis
Chewing difficulties
Dysphagia, odynophagia

STOMACH

Nausea & vomiting
Reflux
LOA, early satiety
Gastroparesis
Dumping syndrome



Flaticon
Freepik

BOWEL

Diarrhoea
Constipation
Steatorrhoea
Enteritis, colitis, malabsorption
Chyle leaks, fistula, strictures, ileus, adhesions
Electrolyte disturbances

SYSTEMIC

Dehydration
BGL & electrolyte disturbances
Vitamin & mineral deficiencies
Fatigue
Stress, anxiety, depression, mood changes
Cancer cachexia

Symptoms cluster. Diarrhoea and constipation rarely travel alone – managing GI symptoms can relieve others

Managing bowel changes

Who does what – the MDT investigates and prescribes; the dietitian titrates diet, fibre and fluids

MDT TO CONSIDER

- **Medications**
  - Antimotility (loperamide, codeine phosphate, Diphenoxylate + Atropine)
  - Antisecretory (octreotide, PPIs)
  - Electrolytes (Mg)
  - Aperients (combinations)
  - Fibre supplements
  - Combine, titrate, refine timing and dose
- Stool tests – MCS, OCP, bile acids, FE1, fatty acids, calprotectin
- Explore signs of pancreatic exocrine insufficiency (PEI) (steatorrhoea, FE-1, fat sol vit def)
- Gastro / oncology review if red flags or refractory symptoms

DIETITIAN TO REFINE

- Modified fibre – soluble vs insoluble fibre education
  - Modify fibre type and amount during active treatment
  - Soluble for diarrhoea/loose stools; insoluble for constipation
- Low fibre / Low FODMAP – trial and personalise
- Fibre supplements
- Antimotility agents timing - with/30mins pre meals
- Pre/probiotics – approach with caution
- ORS (St Marks, double strength Gastrolyte)
- Meal pattern and portion review – smaller, more frequent
- Ostomy management
- Ensure modifications are reviewed and titrated or reintroduced – e.g. low fibre post ileostomy for 6 weeks only

Refer early. The dietitian and MDT work in parallel – managing the cause while optimising the relief.

Managing hydration at home

Isotonic 250–340 mOsmol/L – matches plasma osmolality for optimal absorption
Manage dehydration, diarrhoea, stoma output

HOMEMADE ORS

Make 1 litre at home

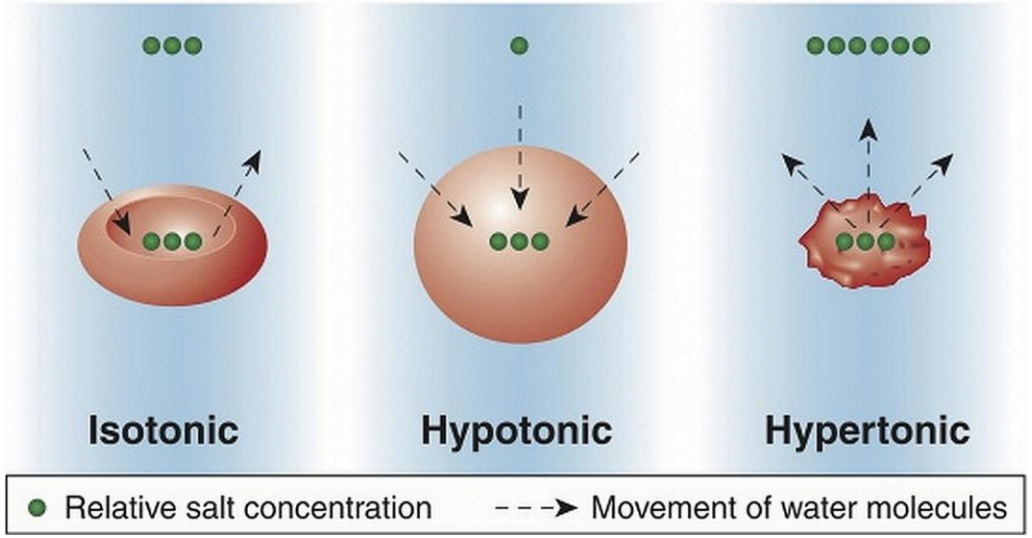
Combine the three ingredients below in 1 L of cooled, boiled water. Mix and refrigerate.

INGREDIENTS

Glucose or sugar	20 g (6 tsp)
Sodium chloride (salt)	3.5 g (½ tsp)
Sodium bicarbonate	2.5 g (1 tsp)

TIPS

- Sip consistently throughout the day – do not gulp
- Add small amount of cordial for taste
- Keeps refrigerated for 24 hours; make fresh daily



Source: 2012books.lardbucket.org – Overview of Fluid and Electrolyte Balance

MY RESOURCE ULTRA CLEAR ORS

Make 1 L

Resource Ultra Clear	1 x 200ml bottle
Salt (sodium chloride)	½ tsp (2.5-3g)
Water	800 mL

Sip throughout the day for a hit of protein and better hydration.

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FOR YOUR PATIENTS

A dietitian can support you with all of these things – muscle preservation, symptom management, recovery, treatment outcomes, long-term health and survivorship.

FROM ONCORE NUTRITION

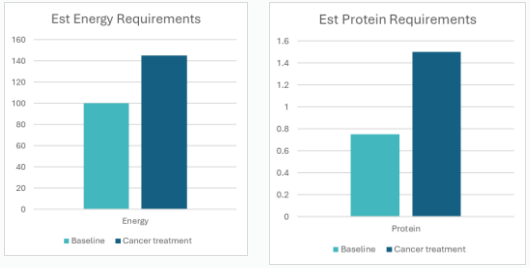
What good nutritional care actually does

Protein target

1.2–1.5 g/kg/day

Matched to muscle protection

ESPEN 2021



Resistance exercise

Paired with intake

Anabolic stimulus meets substrate

ESPEN 2021

Symptom management

Nausea · bowels · fatigue · taste · appetite

Tailored diet to manage Sx, meet needs, improve pt experience

Roeland ASCO 2020 · Vingrys, Atkins et al. 2024

Survivorship care

Recurrence · QOL · chronic disease

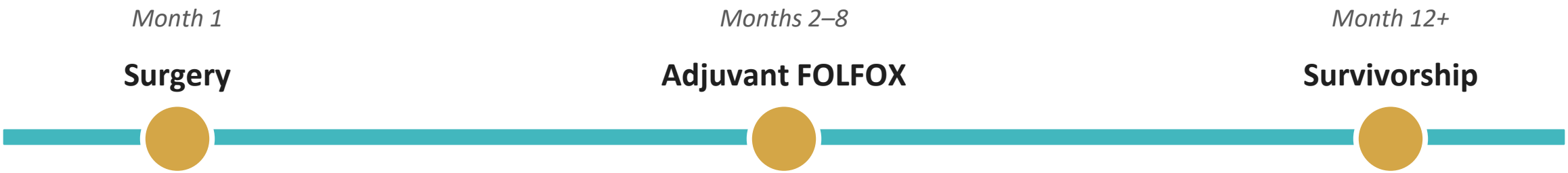
Improves dietary quality, body composition, long term health

Vingrys, Atkins et al., Support Care Cancer 2024

Tailored, evidence-based – and under-utilised.

Back to Michael

One patient, three chapters, one invisible antecedent



Same invisible problem foreshadowed every chapter.

Documented in our 2024 paper on CRC survivorship policy-practice gaps (Vingrys, Atkins et al., Support Care Cancer).

ONCORE NUTRITION

FOR YOUR PATIENTS

Good nutrition improves your long-term health, body composition and survival.

FROM ONCORE NUTRITION

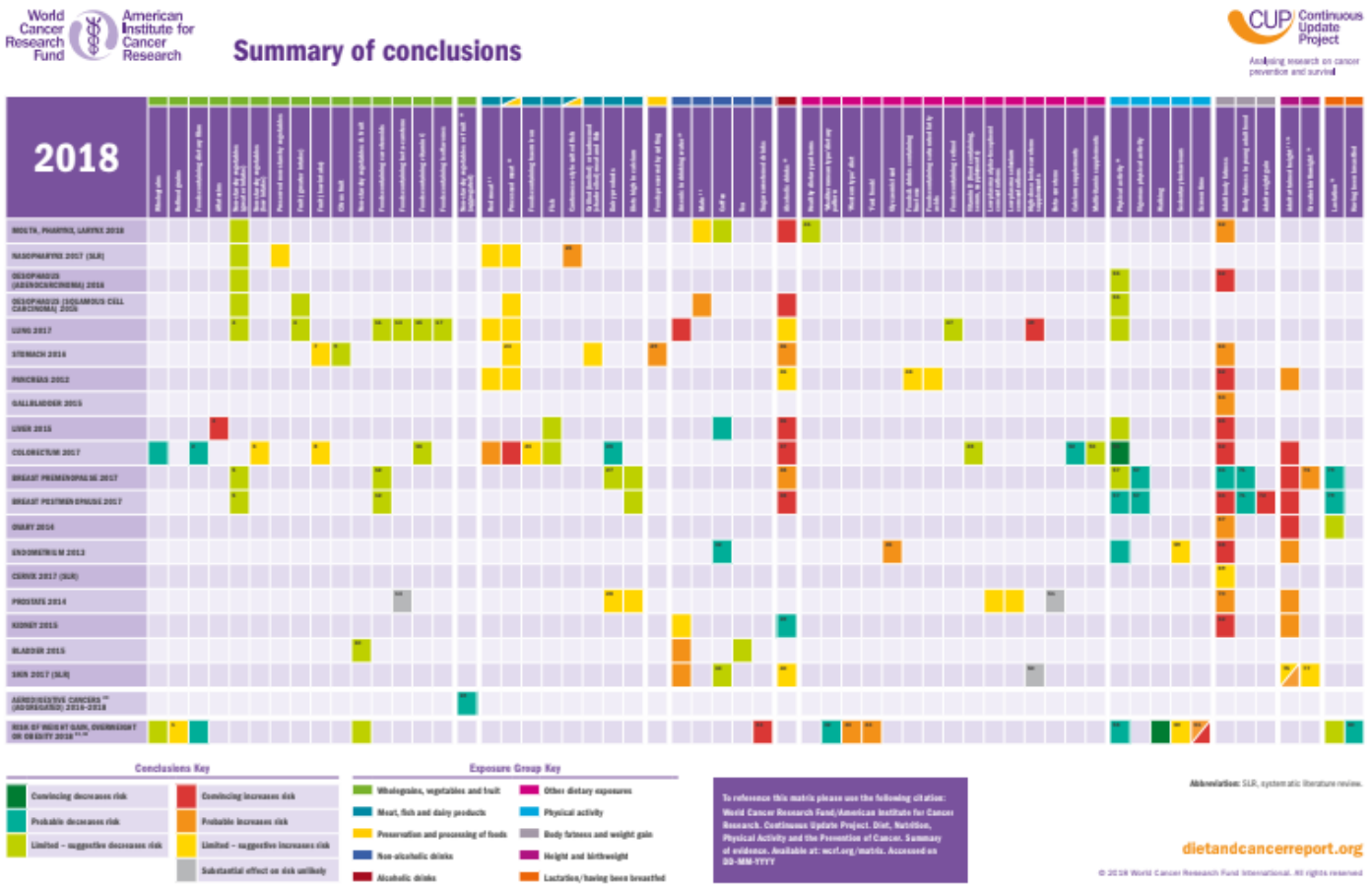
Survivorship & healthy *eating principles*

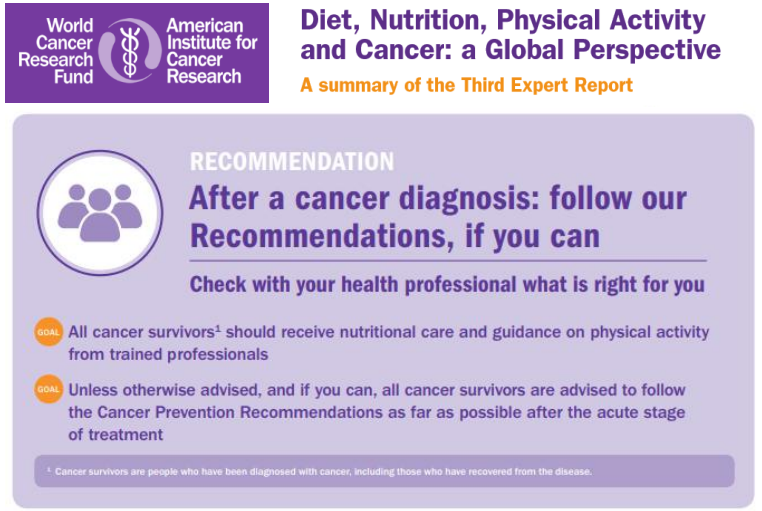
Michael at 35, cured of stage III CRC, has 50 years of life ahead.

What he eats during chemo matters. What becomes the household norm matters more.

Plant-forward	Limit red & processed meat	Limit alcohol	Healthy weight	Be active
Vegetables, whole grains, legumes, fruit	*Red <500g/wk · Avoid processed*	*Less is better*	*Maintain across decades*	*Strength + aerobic, regularly*

WCRF Cancer Prevention Recommendations

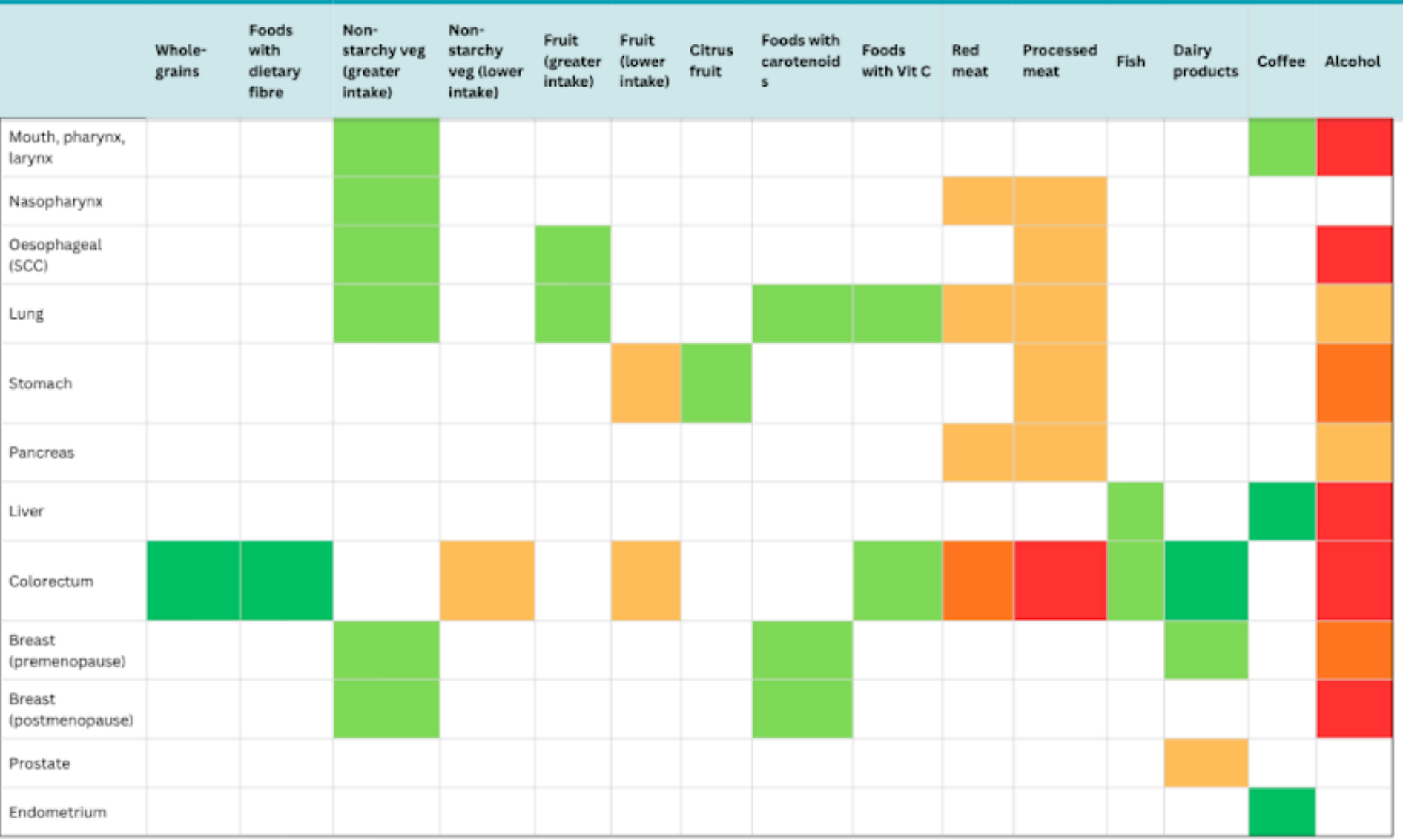


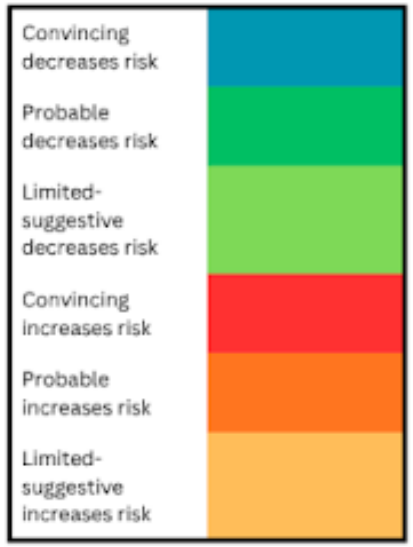


"All cancer survivors (past and present) should receive nutritional care and guidance on physical activity from trained professionals."

The same principles that prevent CRC also support survivors through and after treatment.

WCRF Diet, Nutrition, Physical Activity and Cancer: a Global Perspective





Adapted from Would Cancer Research Fund/American Institute for Cancer Research. Continuous Update Project. Diet, Nutrition, Physical Activity and the Prevention of Cancer. Summary of evidence. Available at wcrf.org/matrix.

ONCORE NUTRITION

FOR YOUR PATIENTS

All cancer survivors (past and present) should receive nutritional care and guidance on physical activity from trained professionals.

WORLD CANCER RESEARCH FUND

What nurses do that we're so grateful for, and that makes the difference.

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- Notice the untouched tray - so we get the referral while there's still time to act
- Hand over the supplement and chart it - so know their preferences and tolerance before we even arrive
- Ask "and what about food at home?" - so the patient feels seen, not just processed
- Refer patient pre-op so we can prepare the body and mind for surgery and body image, lifestyle, identity change
- Refer at risk, not at crisis - so we're preserving muscle, not chasing weight loss
- Reinforce the message every cycle – patients hear it from you long before it lands from us
- Look beyond BMI – recognise the importance of muscle mass preservation
- MST screen regularly, but also look beyond it

We don't need a new tool. We've got you! Trust what you notice; refer when something feels off.

ONCORE NUTRITION

Trust your intuition.

Refer even when the score doesn't quite hit.

Screening tools miss:

- The patient whose weight looks stable because they were in a larger body to start with (including those happy with weight loss!)
- The patient who is eating - but eating not getting nutritional quality
- The patient who has altered their diet, added CAMs, cutting out dairy, worried about sugar
- The motivated survivor who wants to do all they can
- The patient who isn't losing weight like they expected (silver lining) and is disappointed about it

Cost of an unnecessary referral: a 10-minute reassuring conversation with a dietitian.

Cost of a missed referral: muscle, treatment delay, sometimes survival.

What Nurses Can Do - Your Vital Role

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RECOGNISE

- Weight history – not just current weight
- Visible muscle loss; strength & functional change
- Observe intake & % usual at regular intervals
- MST as a prompt – it doesn't replace a nursing degree
- Symptoms that impact nutrition (NIS)

INITIATE

- Standard ONS trial when intake drops
- Protein at every meal
- Ask about CAMs & supplements; correct nutrition myths
- Don't wait for the referral to start support
- Small frequent meals; nourishing fluids

REFER

- Refer at risk, not at crisis
- 5% weight loss is already too late (malnutrition diagnosis)
- Pre-op, pre-treatment for high-toxicity regimens
- Add MST score, weight change & NIS to referral
- Connect to external resources where helpful

REINFORCE

- Patients respect and hear your advice – 3× before it lands
- Every cycle, not just at start
- Stay curious – eating, symptoms, body composition
- Celebrate small wins; support family too
- Support and reinforce dietitian's recommendations

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FOR YOUR TEAM

Nutrition is everyone's business.

It's something patients can control during treatment, and something every team member should be aware of.

FROM ONCORE NUTRITION

Your go-to quotes

For your patients, from us

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TREATMENT TOLERANCE

"Your nutritional status before and during treatment directly impacts how well your body tolerates therapy and recovers."

MUSCLE & WEIGHT

"Maintaining your weight (and muscle mass) during treatment matters – now for treatment tolerance and outcomes, and later for your ability to lose fat."

PATIENT AGENCY

"You may not have control over your treatment plan, but you do get to control what you put in your mouth."

MANAGE SIDE EFFECTS

"We can use nutrition to help manage your side effects, and prevent them from worsening."

WHY A DIETITIAN

"A dietitian can support you with all of these things – muscle preservation, symptom management, recovery, treatment outcomes, long-term health and survivorship."

LONG-TERM HEALTH

"Good nutrition improves your long-term health, body composition and survival."

WCRF GUIDANCE

"All cancer survivors (past and present) should receive nutritional care and guidance on physical activity from trained professionals."

FOR YOUR TEAM

"Nutrition is everyone's business – it's something patients can control, and something every team member should be aware of."

When to think of us

Referral triggers across the CRC pathway

MST ≥2	Any unintentional weight loss	Visible muscle loss, functional decline
Suspected sarcopenia / cachexia	Nutrition impact symptoms	Altered intake or swallowing
Pre-op planning & prehab	New stoma (esp. high-output)	Treatment Sx (nausea, taste, fatigue)
Dose-limiting GI toxicity	Altered bowel habit (urgency, clustering, frequency)	Comorbidities (diabetes, renal, hepatic)
Restrictive or alternative diets	CAMs or supplement use	Distress around food / body image
Under-50 / AYA patient	Family or carer asking for help	Fuelling for exercise & body composition
Survivorship planning	Symptomatic – palliative support	Anything you can't quite articulate

If we had flagged Michael's unintentional weight loss at diagnosis, the rest of his experience may have been different.

Where to find us

How we can help – and how to refer.

Oncology Dietitians · Prehab & ERAS · During Treatment · Survivorship Care

FREE INTRO CALLS

oncorenutrition.com/15-minutes-free

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Medicare CDM, Private Health, NDIS · Clinical letters returned · Referrals welcome