

Case Study 1  
81 Year old lady with bowel cancer & Back pain

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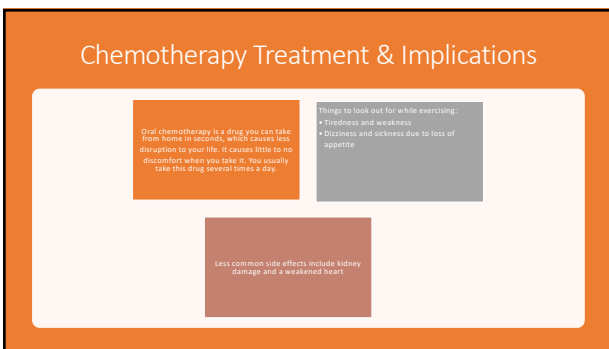
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Chemotherapy Treatment & Implications

Oral chemotherapy is a drug you can take from home in seconds, which causes less disruption to your life. It causes little to no discomfort when you take it. You usually take this drug several times a day.

Things to look out for while exercising:

- Tiredness and weakness
- Diarrhoea and sickness due to loss of appetite

Less common side effects include kidney damage and a weakened heart.

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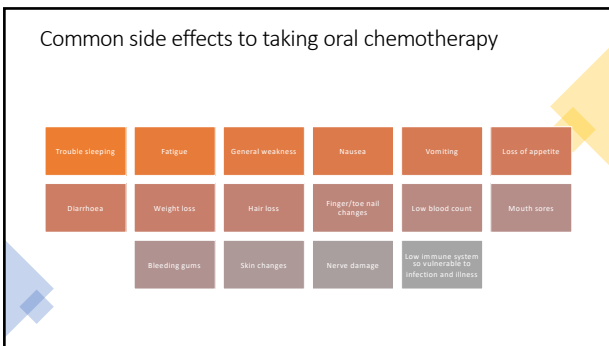
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Common side effects to taking oral chemotherapy

Trouble sleeping	Fatigue	General weakness	Nausea	Vomiting	Loss of appetite
Diarrhoea	Weight loss	Hair loss	Finger/toe nail changes	Low blood count	Mouth sores
Bleeding gums	Skin changes	Nerve damage	Low immune system so vulnerable to infection and illness		

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**Contraindications to exercise.**

- 1: We know that the patients suffers from lower back pain which is made worse by exercise. We need to monitor carefully what she is comfortably able to do.
- 2: Avoid any abdominal/ core exercises which could strengthen her back but potentially could cause more damage to the bowel.
- 3: We know that the oral chemotherapy can cause diarrhoea so need to be mindful of having amenities close to where she is exercising and avoid swimming.
- 4: Hygiene – Make sure we are following good hygiene procedures when in a group session to help avoid picking up any infections which could compromise her already weakened Immune system.

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**Proposed Assessments**

**Berg Balance Test** – The Berg Balance Test helps to determine the client's ability to stand and balance safely. This will help us to understand how cognitive the client is and also if they can exercise whilst standing.

**Fatigue Assessment** – The test would help us to determine the fatigue levels our client is feeling and to what levels of physical activity to set them off at. We would do this to ensure they are getting the most from their sessions and avoid high fatigue levels which may result in the reverse.

**BMI** – We would take the BMI as a standard test for our clients firstly to ensure they're at a healthy weight to exercise, we would retake the BMI at the end of their sessions with us.

**Quality of Life Questionnaire** – This questionnaire will enable us to understand the kind of life our client has lead and is leading, this would include, wealth, employment, environment, physical and mental health, education, recreation and leisure time, social life, religious beliefs, safety, security and freedom. This will also help us to identify any gaps in any areas of her life. This questionnaire lends itself well to the Making Every Contact Count.

**Timed Up and Go** – 3 metre test to help identify if the client is at a risk of falling, breathlessness and balance. This will help determine if the clients critical function should be sitting, standing or a mixture of both.

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**Exercise**

**Rationale:**

- Client is likely to be losing weight due to treatment- resulting in loss of muscle and bone mass
- Aim: improve strength (able to improve ADL and increase QOL), improve core strength, reduce back pain, pelvic floor exercises (baseline assessment – balance, QOL, pain mental wellbeing)
- Aim to meet gov lines of 150 minutes of moderate activity but this probably done at home – improve exercise adherence by providing client with exercise handouts, weekly telephone calls/video calls (if appropriate) and tips for being more active
- Signpost to walking groups, bowling (however toilets could be an issue) so may need to stay at home – social aspect important consideration and improve mental health
- Conditioning exercises – strength and improve CV fitness
- Avoid –intra-abdominal pressure e.g. stomach crunches -sit to stands and even sitting could be uncomfortable

**Weekly group class -RAG circuit -chair based progressing to more standing if applicable:**

- Intervals due to likely deconditioned nature
- CV and AR – progressed to more CV over the weeks
- Aim to improve general mobility, strength and reduce back pain
- Stretches and flexibility to improve mobility and reduce back pain

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### Exercise session - Summary



Warm-up and dynamic stretching/mobility 10-15 minutes



Main Session-Intervals of CV and lower/Upper body strengthening and balance exercises - aim 20-30 minutes of CV



Cool down and stretching 5-10 minutes



Interval approach with alternating CV and MSE work (use resistance bands)



Whole body approach - balance between lower and upper body work



Focus on maintain good posture and balance



RPE posters at each CV station

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### Example Circuit

1. CV - Sit to Stands
2. Lower Body (Strength or Balance) - Front of knee strengthner (Otago exercise -Quads)
3. CV - Toe Taps (Seated or standing)
4. Upper Body - Bicep Curls
5. CV - Knee lifts (seated or standing)
6. Lower Body (Strength or Balance) - Back of knee strengthner (Otago - Hamstrings)
7. CV - Step ups
8. Upper Body - Lateral Raises
9. CV - Jogging/peddaling (seated or with support) or shuttle walk
10. Lower Body (Strength or Balance) - Hip Adductors
11. CV - Heel Digs
12. Upper Body - Tricep Curls

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### Example exercises

Hip Out (Lower)	Hip Back (Lower)	Straight Knee (Lower)	Alphabet Legs (Lower)	Adductor Squeeze (Lower)	Calf Raises (Lower)
Sit to stand (Lower)	Squats (Lower)	Forward/Backward Lunge (Lower)	Leg Slides (Lower)	Mini knee lifts (Core)	Wall Push-offs (Upper)
Arm Punches (Upper)	Bicep Curls (Upper)	Triceps Curl (Upper)	Lateral Raise (Upper)	Upright Row (Upper)	Chest Press (Upper)
One leg stand (Balance)	Swinging one leg stand (Balance)	Wobbleboard (Balance)	Trunk Twists	Side Bends	Back Strengthenr

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**DIETRY ADVICE FOR PATIENT UNDERGOING BOWEL CANCER TREATMENT**

Nutrition can play an important part in recovery, when faced with Bowel Cancer	Maintaining a healthy weight whilst undergoing chemotherapy for Bowel Cancer is very important, as Colorectal Cancer can often lead to unintentional weight loss.	With a poor diet, the bodies' ability to fight infection would decrease.
Overall, eating a well-balanced diet will help the patient feel better. Putting into place the following bullet points, could help the patient feel better, stronger and aid recovery speed.	Limit/avoid high sugar/added sugar foods, as they provide little nutritional quality and can take place of more healthier food choices in the patient's diet.	Eat healthy high calorie and high protein foods, to help aid the overall healing process (Lean meats, fish, eggs). Avoid red and processed meats, as these can have a carcinogenic effect on cells of the body.

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**DIETRY ADVICE FOR PATIENT UNDERGOING BOWEL CANCER TREATMENT**

- In the initial stages of recovery, eat a healthy low fibre (White pasta, White bread, vegetables and fruit that are well cooked and peeled). A low fibre diet will help slow rate at which food is processed through the gut. A Low-Fibre diet will also reduce the bulk of the patient's stool, making it easier for the stool to pass through narrower sections of the bowel.
- Reduce caffeine intake, as caffeine can make diarrhoea worse. Drinking peppermint water could relieve discomfort and trapped wind.
- Stay well hydrated (3-4 pints of water per day), as good hydration will help reduce chemotherapy treatment side-effects by helping the body flush out toxins.
- Eat small, more frequent meals, as this will help the body maintain enough calories, protein and nutrients to tolerate treatment side effects and reduce nausea.
- Take small mouthfuls and chew slowly as mouth will most probably be sore whilst undergoing chemotherapy. Soft broken-down foods should be preferred to hard dry foods. If attending gym, patient should bring water bottle from home, as to avoid the water station chilled water aggravating the patient's mouth.

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