MEDICATIONS USED IN INFLAMMATORY BOWEL DISEASE

PATIENT INFORMATION

MEDICATION	USED IN	HOW and WHY	POSSIBLE SIDE EFFECTS *SAFETY INFORMATION	PREGNANCY AND BREASTFEEDING
CORTICOSTEROIDS				
Hydrocortisone	Acute severe ulcerative colitis Severe flares of ulcerative colitis and Crohn's disease	Intravenous – you will be admitted to hospital. Used to rapidly induce remission of disease	Mood and sleep disturbance, hunger, acne, high blood sugars, infection, fluid retention, bruising, high blood pressure, puffy face, osteoporosis, increased facial hair *Can be dangerous to stop suddenly – see doctor for weaning plan *Avoid live vaccines	Safe in pregnancy and breast feeding (higher risks of gestational diabetes, high blood pressure)
Prednisone/Prednisolone (Oral – Panafcort/Panafcortolone, Predsone/Predsolone, Sone/Solone ; Rectal - Predsol	Ulcerative colitis and Crohn's Disease	Daily tablet (oral) and rectal preparations Used to rapidly induce remission of disease	As for hydrocortisone *Can be dangerous to stop suddenly – see doctor for weaning plan *Avoid live vaccines	Safe in pregnancy and breast feeding (higher risks of gestational diabetes, high blood pressure)

Budesonide (Oral - Cortiment, Entocort, Budenofalk; Rectal - Budeonfalk) *Only rectal Budenofalk is available on the PBS	Ulcerative colitis and Crohn's Disease	Daily tablet (oral) and rectal preparations. Rectal preparations may be used in left sided ulcerative colitis. Used to rapidly induce remission of disease.	Similar to hydrocortisone, but less frequently experienced Rectal: - Burning sensation *Can be dangerous to stop suddenly – see doctor for weaning plan *Avoid live vaccines	Safe in pregnancy and breast feeding (higher risks of gestational diabetes, high blood pressure)
5-AMINOSALICYLATES (5-ASAs)				
Oral preparations: - **Sulfasalazine** (Salazopyrin, Pyralin) - **Mesalazine** (Mesasal, Mezavant, Pentasa, Salofalk, Asacol) - **Olsalazine** (Dipentum) - **Balsalazide** (Colazide)	Ulcerative colitis Less commonly used in Crohn's Disease	Taken at least once daily as tablets or granules Oral + rectal preparations often used in left sided ulcerative colitis Used to induce and maintain remission, and prevent relapse in mild-moderate ulcerative colitis. May be utilised in mild terminal ileal or colonic Crohn's disease.	Nausea, vomiting, rash, headache, diarrhoea Rarely – liver or lung inflammation, low blood counts, hair loss *We monitor for adverse reactions with regular blood tests	Sulfasalazine - Reversible male infertility (low sperm count) - Use in pregnancy requires 2-5mg daily folate supplement Other 5-ASAs safe in pregnancy and breast feeding
Rectal preparations: - **Mesalazine** (Pentasa suppository/enema, Salofalk suppository/ foam/enema)	Ulcerative colitis	Inserted at least once daily into the rectum Used to induce and maintain remission in mild-moderate left sided ulcerative colitis	As per oral side effects *We monitor for adverse reactions with regular blood tests	Safe in pregnancy and breast feeding

IMMUNOMODULATORS				
Azathioprine (Imuran, Azapin, Imazan, Thioprine Or **6-Mercaptopurine (6-MP)** (Puri-Nethol, Allmercap)	Ulcerative colitis and Crohn's Disease	Taken daily as tablets Used to maintain remission in ulcerative colitis and Crohn's disease and prevent relapse. Also used when on some of the biologics (see below) to decrease the risk of the body 'rejecting' the medication (i.e. forming antibodies).	Usually well tolerated. Can cause nausea/vomiting, hair thinning, headache. Uncommon: inflammation of the liver or pancreas, low blood counts. Increased risk of infection and some cancers, e.g. skin cancer, lymphoma (risk of lymphoma increases from 2/10000 <u>not on</u> medication to 4/10000 <u>on</u> medication) *We monitor for adverse reactions with regular blood tests *Let your doctor know if on allopurinol *Avoid live vaccines	Safe in pregnancy and breast feeding
Methotrexate (Oral – Methoblastin; Injection – Methoblastin, Trexject)	Ulcerative colitis and Crohn's Disease *Use is uncommon	Taken once weekly as tablets or injection into the muscle. Regular folic acid is also prescribed to decrease the risk of side effects (not taken on day of methotrexate). Used to maintain remission in ulcerative colitis and Crohn's disease and prevent relapse.	Usually well tolerated. Can cause nausea, vomiting, diarrhoea, abdominal pain, infections, mouth ulcers, rash, hair loss Uncommon: severe infections, liver inflammation, low blood counts, rash, cancer *We monitor for adverse reactions with regular blood tests *Avoid live vaccines	**AVOID** in pregnancy and breastfeeding. - High risk of foetal malformations Contraception is recommended while on methotrexate. Ideally stop 3-6 months before conception.

BIOLOGICS AND SMALL MOLECULES				
Anti-TNF agents - **Infliximab** (Remicade, Inflectra) - **Adalimumab** (Humira) - **Golimumab** (Simponi)	Ulcerative colitis and Crohn's Disease – infliximab and adalimumab Ulcerative colitis - golimumab	Infliximab – intravenous infusion, initially at weeks 0, 2 and 6, then every 8 weeks Adalimumab – subcutaneous injection, every 2 weeks. - Used to induce and maintain remission and prevent relapse in moderate-severe ulcerative colitis and Crohn's Disease - Also used early in fistulising Crohn's disease Golimumab – subcutaneous injection, initially at weeks 0 and 2, then every 4 weeks - Used to induce and maintain remission and prevent relapse in moderate-severe ulcerative colitis	Usually well tolerated. Can cause infusion and injection site reactions, skin reactions, low blood counts, liver inflammation, increased risk of infections and cancers. *Prior to starting these medications you will be screened for hepatitis and tuberculosis * We monitor for adverse reactions with regular blood tests *Avoid live vaccines	Infliximab and adalimumab are safe in pregnancy and breastfeeding. Golimumab is probably safe but there is limited data. Infants of patients on biologics should avoid live vaccines for the first 12 months of life.

Anti-integrin agents - **Vedolizumab** (Entyvio)	Ulcerative colitis and Crohn's Disease	Intravenous infusion, initially at weeks 0, 2 and 6, then every 8 weeks Used to maintain remission and prevent relapse in moderate-severe ulcerative colitis or Crohn's Disease	Usually well tolerated. Can cause infusion reactions, joint pains, headache, infections (especially nose/throat, gastrointestinal). Likely has a lower rate of serious infection and cancer than that seen with the anti-TNFs. *Prior to starting these medications you will be screened for hepatitis and tuberculosis * We monitor for adverse reactions with regular blood tests *Avoid live vaccines	Probably safe in pregnancy and breastfeeding but limited data. Infants of patients on biologics should avoid live vaccines for the first 12 months of life.
Anti-interleukin agents - **Ustekinumab** (Stelara)	Crohn's Disease	First dose is an intravenous infusion, followed by subcutaneous injections every 8 weeks. Used to induce and maintain remission and prevent relapse in moderate-severe Crohn's Disease	Usually well tolerated. Can cause dizziness, headache, fatigue, joint and muscle aches, injection site reactions, infections. Likely has a lower rate of serious infection and cancer than that seen with the anti-TNFs. *Prior to starting these medications you will be screened for hepatitis and tuberculosis * We monitor for adverse reactions with regular blood tests *Avoid live vaccines	Probably safe in pregnancy and breastfeeding but limited data. Infants of patients on biologics should avoid live vaccines for the first 12 months of life.

JAK inhibitors - **Tofacitinib** (Xeljanz) *Not yet available on PBS	Ulcerative colitis	Taken twice daily as tablets Used to induce and maintain remission and prevent relapse in moderate-severe ulcerative colitis.	Can cause nausea, diarrhoea abdominal pain, headache, high cholesterol, low blood counts, gastrointestinal perforation. Increased risk of infections (especially shingles), blood clots (e.g. leg and lung), and some cancers. *Prior to starting these medications you will be screened for hepatitis and tuberculosis * Prior to starting this medication, it may be recommended that you have either the chicken pox or shingles vaccine * We monitor for adverse reactions with regular blood tests *Avoid live vaccines	**AVOID** in both pregnancy and breastfeeding - Foetal malformations seen in animal studies

OTHER				
Ciclosporin (Oral – Neoral; Intravenous – Sandimmun)	Ulcerative colitis	Often initiated in hospital as intravenous infusion, followed by tablets twice daily. Used to induce remission in severe ulcerative colitis not responding to steroids. It is not effective, nor safe, for long-term treatment.	Can cause high blood pressure, high cholesterol nerve/kidney/liver damage, diarrhoea, low magnesium, high potassium, high blood sugars. Risk of serious interactions with other medications. Increased infection risk. *Prior to starting these medications you will be screened for hepatitis and tuberculosis * We monitor for adverse reactions with regular blood tests *Avoid live vaccines *You will be given antibiotics to prevent infection while on ciclosporin	Probably safe in pregnancy, though limited data. Likely safe in breastfeeding, but generally advised to avoid, or monitor infant levels
Allopurinol (Progout, Allosig, Zyloprim)	Ulcerative colitis and Crohn's Disease	Given as a low dose daily tablet, and used WITH azathioprine or 6-MP (at lower doses) to maximise their effect, in certain patients.	Abnormal liver function, rash, swelling, joint or abdominal pain, low blood counts	Unclear safety in pregnancy. Safe in breastfeeding
Antibiotics - **Ciprofloxacin** (Ciprol, C-Flox, Cifran, Ciproxin, Loxip) - **Metronidazole** (Flagyl, Metrogyl, Metronide)	Crohn's disease (less commonly ulcerative colitis) complicated by fistulae or abscesses	Given as tablets for days to weeks depending on the indication. Used to help heal infections (e.g. abscesses) and fistulae. Sometimes also used to decrease risk of relapse in patients with Crohn's Disease, after an operation.	Ciprofloxacin – rash, itch, nausea/vomiting, skin sensitivity to sun, abdominal/muscle/joint pain, nerve or tendon damage. Metronidazole – nausea, abdominal pain, metallic taste, headache, nerve damage	Ciprofloxacin – probably safe in short course in pregnancy, safe to use in breastfeeding. Metronidazole – safe in both pregnancy and breastfeeding. Ideally take metronidazole 12-24 hours prior to feeding.