Shared Care (Specialist) Drug Management Service - Monitoring Requirements

Information taken from NHS Barnsley CCG shared care documents available at: http://best.barnsleyccg.nhs.uk/

Please note: Information correct at time of publication. Please refer to current shared care guideline and product SPC for further information.

Amber Drug	Amber (SCG)	Amber G	Level of monitoring	Monitoring requirements	Frequency
6-Mercaptopurine	*		High	FBC and LFT	**Specialist**: every 2 weeks until on a stable dose for 6 weeks. Then monthly for 3 months. **Routine**: 3 monthly once the dose and the blood tests are stable
				Ask about rash, oral ulceration, sore throat, infections or evidence of bruising or bleeding	At each review
				If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop azathioprine and contact the hospital specialist: WCC <3.7x10⁹/L Neutrophils <1.7x10⁹/L Platelets <150x10⁹/L AST or ALT >3x normal range	At each blood test
Acamprosate		*	Low	LFTs	6 monthly
				Patients should be asked about abstinence and monitored for suicidal thoughts and depression.	At each review
Acetazolamide tablets	*		Intermediate	FBC and U&Es	Annually
				Acetazolamide is a sulphonamide derivative therefore patients should be told to report any unusual skin rash.	At each review
Amiodarone		*	High	TFTs, U&Es, LFTs	6 monthly (TFTs may be needed up to one year after stopping amiodarone as hyperthyroidism may result up to several months after stopping treatment)
				Heart rate and ECG	annually
				History and examination about possible advers effects: Ask about breathlessness and non-productive cough, relating to possible pulmonary toxicity	At each review but at least 6 monthly
Amisulpride	*		High	U&Es – 6 monthly	6 monthly
				Prolactin, fasting plasma Glucose/HbA1c	Annually
				Blood lipids	After 3 months then Annually
				Weight	As needed, at least annually
				Creatine Phosphokinase (CPK)	If NMS suspected
Apixaban		*	Low	Renal function, LFTs and Hb.	Annually (renal function more frequently in patients at high risk: 6monthly if CrCl 30-60ml/min or >75 years or fragile. 3 monthly if: CrCl 15-30ml/min)
Apomorphine	*		Intermediate	Injection site reactions	Ongoing
Aripiprazole	*		High	U&Es	6 monthly
				Weight	As needed, at least annually
				Prolactin	If symptoms occur
Atomoxetine	*		Low	Height, weight and blood pressure	6 monthly
				Pulse	6 monthly
				FBC	Only perform if patient looks pale and suffering recurrent infection **or** easy bruising
Azathioprine	*		High	FBC, U+Es, calculated GFR, LFTs and serum albumin	**Specialist**: every 2 weeks until on a stable dose for 6 weeks. Then monthly for 3 months. **Routine**: 3 monthly once the dose and the blood tests are stable
				Ask about rash, oral ulceration, sore throat, infections or evidence of bruising or bleeding	At each review
				If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop azathioprine and contact the hospital specialist: WCC <3.7x10⁹/L Neutrophils <1.7x10⁹/L Platelets <150x10⁹/L MCV>100f/l AST or ALT >3x normal range Creatinine increased >30% in 12 months or GFR<60ml/min Unexplained decrease in albumin <30g/l Observe trends in blood test results e.g. gradually decreasing white blood cells	At each blood test

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Ciclosporin	*		High	FBC, U+Es, calculated GFR, LFTs, serum albumin, urinalysis and blood pressure	**Specialist**: every 2 weeks until on a stable dose for 6 weeks. Then monthly for 3 months. **Routine**: 3 monthly once the dose and the blood tests are stable
				Urate & lipids	Every 3mths (optional)
				If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop azathioprine and contact the hospital specialist: WCC <3.7x10⁹/L Neutrophils <1.7x10⁹/L Platelets <150x10⁹/L MCV>100f/l AST or ALT >3x normal range Potassium>5.5mmol/L Creatinine increased >30% in 12 months or GFR<60ml/min Unexplained reduction in albumin < 30g/L BP >160/95 or risen by > 20mmHg Observe trends in blood test results e.g. gradually decreasing white blood cells	At each blood test
Cyproterone		*	Low	FBC and LFTs	6 monthly
Dabigatran		*	Low	Renal function, LFTs and Hb.	Annually (renal function more frequently in patients at high risk: 6monthly if CrCl 30-60ml/min or >75 years or fragile. 3 monthly if: CrCl 15-30ml/min)
Dalteparin	*		Intermediate	Potassium	As requested by Secondary care
Denosumab (Prolia®)	*		High	Calcium levels	Prior to each dose and if suspected symptoms of hypocalcaemia occur
				Symptoms of hypocalcaemia – muscle spasms, twitches, cramps, numbness or tingling in the fingers, toes or around the mouth	Ongoing
				Skin infections (predominantly cellulitis) requiring hospitalisation & if symptoms develop they should contact a health care professional immediately	Ongoing
				Check for osteonecrosis of the jaw (ONJ) risk factors before starting denosumab 60 mg. A **dental** examination should be considered prior to treatment with denosumab in patients with concomitant risk factors: Smoking, old age, Poor oral hygiene, invasive dental procedures (e.g. tooth extractions, dental implants, oral surgery), comorbidities (e.g. dental disease, anaemia, coagulopathy, infection), advanced cancer, previous treatment with a bisphosphonate, concomitant treatments (e.g. chemotherapy, antiangiogenic biologics, corticosteroids, radiotherapy to head and neck)	Ongoing
				Check oral symptoms such as dental mobility, pain or swelling to a doctor or dentist	Ongoing
				Check new or unusual hip, thigh or groin pain	Ongoing
				Check patient compliance with Calcium & Vit D treatment	At each review
Dexamfetamine	*		Low	Height, weight and blood pressure	6 monthly
				FBC	Only perform if patient looks pale and suffering recurrent infection **or** easy bruising
Disulfiram		*	Low	LFTs	6 monthly
				Patients should be asked about abstinence and monitored for suicidal thoughts and depression.	At each review
Dulaglutide		*	Low	HbA1c and weight	6 monthly
				Renal function	Annually
Edoxaban		*	Low	Renal function, LFTs and Hb.	Annually (renal function more frequently in patients at high risk: 6monthly if CrCl 30-60ml/min or >75 years or fragile. 3 monthly if: CrCl 15-30ml/min)
Enoxaparin	*		Intermediate	Potassium	As requested by Secondary care
Goserelin		*	Intermediate	PSA - prostate cancer guideline (no specific monitoring required when goserelin is being used in breast cancer)	3-6 monthly
Guanfacine	*		Low	Height, weight and blood pressure	6 monthly
				FBC	Only perform if patient looks pale and suffering recurrent infection **or** easy bruising

Amber Drug	Amber (SCG)	Amber G	Level of monitoring	Monitoring requirements	Frequency
Hydroxychloroquine	*		Intermediate	Renal function if over 70yrs old; pre-existing renal impairment or known hypertension/diabetes	Annually
				Formal ophthalmological screening is suggested: after 7 years of continuous treatment or more than 500grams of HCQ in total has been taken – whichever is the first; or if doses of > 6.5mg/kg/day are used (=> 400mg/day for 60kg patient).	Ongoing
				Ask about visual impairment not corrected by glasses. Record near visual acuity of each eye (with reading glasses if worn) using a test type or reading chart on an annual basis. If abnormality detected refer first to an optometrist. Discuss with ophthalmologist if on treatment for >5 years.	Ongoing
Leflunomide	*		High	FBC, U+Es, calculated GFR, LFTs and serum albumin	**Specialist**: every 2 weeks until on a stable dose for 6 weeks. Then monthly for 3 months. **Routine**: 3 monthly once the dose and the blood tests are stable
				If patients present with symptoms of potential adverse effects stop leflunomide and perform an urgent blood test: Ulcerative stomatitis; skin/mucosal reactions (stop and consider washout - risk of Stevens-Johnson syndrome); pruritis/rash; peripheral neuropathy; abnormal LFTs; breathlessness or infection (stop, perform chest x-ray and PFTs); abdominal pain nausea, diarrhoea.	Ongoing
				If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop leflunomide and contact the hospital specialist: WCC <3.7x10⁹/L Neutrophils <1.7x10⁹/L Platelets <150x10⁹/L MCV>100f/L AST or ALT>3x normal range Increase in creatinine >30% in 12 months and/or calculated GFR <60ml/min Also observe trends in results e.g. gradually decreasing white blood cell count. Contact rheumatology specialist for advice where persistent unexplained eosinophilia (eosinophils >0.5x 109/L) Unexplained reduction in albumin < 30g/L Blood pressure If >140/90 treat in line with NICE guidance. If BP remains uncontrolled, stop leflunomide and consider washout (seek specialist advice) Weight If >10% weight loss with no other cause identified, stop and consider washout (seek specialist advice)	At each blood test
Leuprorelin		*	Intermediate	PSA	3-6 monthly
Liraglutide		*	Low	HbA1c and weight	6 monthly
				Renal function	Annually
Lisdexamfetamine	*		Low	Height, weight and blood pressure	6 monthly
				FBC	Only perform if patient looks pale and suffering recurrent infection **or** easy bruising
Lithium	*		High	Monitor serum lithium levels - record in purple book	6 monthly
				Thyroid & U&Es - record in purple book	6 monthly
				Serum creatinine and eGFR	6 monthly
				Serum calcium	6 monthly
				Weight	6 monthly
				Blood Pressure	12 monthly
Lixisenatide		*	Low	HbA1c and weight	6 monthly
				Renal function	Annually
Lubiprostone	*		Intermediate	Efficacy check	3 monthly
				LFTs	Only in patients with deranged results at baseline

Amber Drug	Amber (SCG)	Amber G	Level of monitoring	Monitoring requirements	Frequency
Methotrexate ***Methotrexate monitoring books and patient information should be supplied to all patients***	*		High	FBC, U+Es, calculated GFR, LFTs and serum albumin	**Specialist**: every 2 weeks until on a stable dose for 6 weeks. Then monthly for 3 months. **Routine**: 3 monthly once the dose and the blood tests are stable
				If patients present with symptoms of potential adverse effects stop methotrexate and perform an urgent blood test: • New or increasing dyspnoea/cough • Rash or oral ulceration, nausea, vomiting or diarrhoea • Abnormal bruising or severe sore throat	(More frequent monitoring may be required if psoriatic arthritis, diabetes, obesity, uncertain alcohol intake or concomitant medication which may reduce the renal excretion of methotrexate).
				If any of the following occur at any time stop medication and contact the hospital specialist: If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop azathioprine and contact the hospital specialist: WCC <3.7x109/L Neutrophils <1.7x109/L Platelets <150x109/L MCV>100f/L AST or ALT>3x normal range Unexplained reduction in albumin < 30g/L	At each blood test
				Also observe trends in results e.g. gradually decreasing white blood cell count. Contact rheumatology specialist for advice where persistent unexplained eosinophilia (eosinophils>0.5x 109/L)	Ongoing
				In doses used to treat patients in rheumatology methotrexate does not cause renal impairment or deterioration of usual levels. However, it can accumulate in renal impairment. -If there is a significant change from usual eGFR levels, please address any possible cause. -Methotrexate dose can be halved temporarily if eGFR drops to 30-50. It should be withheld if eGFR drops below 30.	Ongoing
Methylphenidate	*		Low	Height, weight and blood pressure	6 monthly
				FBC	Only perform if patient looks pale and suffering recurrent infection **or** easy bruising
Minoxidil		*	Low	Bodyweight, fluid and electrolyte balance	As determined by specialist
Mycophenolate	*		High	FBC, U+Es, calculated GFR, LFTs and serum albumin	**Specialist**: every 2 weeks until on a stable dose for 6 weeks. Then monthly for 3 months. **Routine**: 3 monthly once the dose and the blood tests are stable
				Advise patients to report immediately any signs or symptoms of bone marrow suppression. Ask about rash, oral ulceration, sore throat, infections or evidence of bruising or bleeding at every review. If patients present with these symptoms perform an urgent blood test.	Ongoing
				If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop mycophenolate and contact the hospital specialist: WCC <3.7x10⁹/L Neutrophils <1.7x10⁹/L Platelets <150x10⁹/L MCV>100f/L AST or ALT>3x normal range Increase in creatinine >30% in 12 months and/or calculated GFR <60ml/min Also observe trends in results e.g. gradually decreasing white blood cell count. Contact rheumatology specialist for advice where persistent unexplained eosinophilia (eosinophils >0.5x 109/L) Unexplained reduction in albumin < 30g/L	Ongoing
				Also observe trends in results e.g. gradually decreasing white blood cell count. Contact rheumatology specialist for advice where persistent unexplained eosinophilia (eosinophils >0.5x 109/L)	Ongoing
Naltrexone	*		Low	LFTs	6 monthly
Olanzapine	*		High	U&Es	6 monthly
				Blood lipids and FBG/AbA1c	Annually
				Weight	As needed, at least annually
				CPK	If NMS suspected
				Prolactin	If symptoms occur

Amber Drug	Amber (SCG)	Amber G	Level of monitoring	Monitoring requirements	Frequency
Penicillamine	*		High	FBC & Urinalysis	**Specialist:** Fortnightly for 2 months & in week after dose increase, then monthly for four months **Routine:** 3 monthly
				If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop medication and contact the hospital specialist: WCC <3.7x10⁹/L Neutrophils <1.7x10⁹/L Platelets <150x10⁹/L Proteinuria/Blood >1+	Ongoing
				Unusual bruising/mouth ulceration/loss of taste. If proteinuria and negative MSU, suggest PCI and GFR (or 24 hour urine for CrCl and protein)	Ongoing
Prucalopride (Resolor®)		*	Intermediate	Efficacy check	3 monthly
				U&Es and LFTs	Only in patients with deranged results at baseline (every 3 months unless renal or liver disease is clinically unstable), or in those who are deemed to be at risk of dysfunction
Quetiapine	*		High	Weight	As needed, at least annually
				U&Es	6 monthly
				Prolactin	If symptoms occur
Ranolazine	*		Low	Renal function	3 monthly if patient at increased risk (elderly patients, pre-existing renal impairment, patients taking medications such as ACE inhibitors, angiotensin receptor blockers and aldosterone antagonists, and patients taking medication which may alter renal blood flow)
Risperidone	*		High	Prolactin	If symptoms occur
				U&Es	6 monthly
				Weight	As needed, at least annually
				CPK	If NMS suspected
Rivaroxaban		*	Low	Renal function, LFTs and Hb.	Annually (renal function more frequently in patients at high risk: 6monthly if CrCl 30-60ml/min or >75 years or fragile. 3 monthly if: CrCl 15-30ml/min)
Sodium aurothiomalate	*		High	FBC	Before each injection but may be reduced to 3 monthly in long term stable patients
				Urinalysis	Before each injection.
				LFT & U&Es	3 monthly
				If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop medication and contact the hospital specialist: WCC <3.7x10⁹/L MCV>100f/l Neutrophils <1.7x10⁹/L Platelets <150x10⁹/L Proteinuria/Blood >1+ AST or ALT>3 times the normal range Increase in creatinine >30% in 12 months and/or calculated GFR <60ml/min Unexplained reduction in albumin <30g/L	Ongoing
				Also observe trends in results e.g. gradually decreasing white blood cell count. Contact rheumatology specialist for advice where persistent unexplained eosinophilia (eosinophils >0.5x 109/L)	Ongoing
				Inform patient to report – pruritis, metallic taste in the mouth, sore throat or tongue, buccal ulceration, easy bruising, purpura, epistaxis, bleeding gums, inappropriate menstrual bleeding or diarrhoea.	Ongoing
Sodium Clodronate	*		High	Renal function, liver function, U&Es, serum calcium and phosphate	3 monthly

Amber Drug	Amber (SCG)	Amber G	Level of monitoring	Monitoring requirements	Frequency
Sulfasalazine	*		High	FBC, U+Es, calculated GFR, LFTs and serum albumin	**Specialist**: to be undertaken every 2 weeks until on a stable dose for 6 weeks. Then monthly for 3 months. **Routine:** 3 monthly once the dose and the blood tests are stable. *Routine monitoring can cease if stable after 12months of therapy with sulfasalazine alone (if specialist advises)*
				If patients present with symptoms of potential adverse effects (see below) perform an urgent blood test: If patients present with these symptoms perform an urgent blood test. If any of the following occur, stop medication and contact the hospital specialist: WCC <3.7x109/L MCV>100f/l Neutrophils <1.7x109/L Platelets <150x109/L Proteinuria/Blood >1+ AST or ALT>3 times the normal range Increase in creatinine >30% in 12 months and/or calculated GFR <60ml/min Unexplained reduction in albumin <30g/L	Ongoing
				Also observe trends in results e.g. gradually decreasing white blood cell count. Contact rheumatology specialist for advice where persistent unexplained eosinophilia (eosinophils>0.5x 109/L)	
Testosterone replacement therapy	*		Intermediate	Signs & symptoms, patients overall wellbeing	6 months after Endocrine appointment
				FBC & PSA (requested by secondary care)	If indicated – interim monitoring
Triptorelin		*	Intermediate	PSA	3-6 monthly