Indication	Medication	Dose and duration	Advantages	Disadvantages	Further considerations
Initial therapy					
First-line treatment with glucocorticosteroids	Oral prednisolone	1mg/kg/day, usually 60-80 mg, for 4 weeks, followed by a tapering regimen until disease remission is achieved The maintenance dose of prednisolone should be as low as possible		Common side effects of long-term corticosteroid therapy include diabetes, hypertension, osteoporosis, adrenal insufficiency, cataract, and glaucoma. Steroid-induced muscle weakness is considered rare in IIM; first disease progression should be considered	PJP/PCP prophylaxis and osteoporosis prophylaxis, such as calcium and vitamin D3 supplementation, should be provided according to appropriate guidelines Be alert for tuberculosis (TBC)
	Oral dexamethasone	Pulse therapy (six cycles of 40mg/day for four consecutive days with 28-day intervals). Reduce dose when improvement in disease activity is observed, typically after three pulses. Consider additional prednisone, e.g. 20 mg oral daily.	Fewer side effects than oral prednisolone (Van de Vlekkert, 2010)		
Severe or rapidly progressive myositis, particularly in case of bulbar symptoms or life-threatening comorbidities (like severe ILD)	Methyl-prednisolone	Pulse therapy (1g/day for 3 days), followed by oral prednisone in 40-60 mg once daily, or 1 mg//kg (not exceeding 80 mg), in very severe cases			
Steroid sparing agents (in addition to corticosteroids)					
When no specific extramuscular involvement (in particular lung involvement) is present; long-term maintenance of disease remission	Azathioprine	1-3 mg/kg body weight Step-wise dose increase in the first weeks is often used to address tolerance issues.		Azathioprine has a latency period of at least 3 months before its onset of action.	Avoid combining azathioprine with allopurinol due to contra-indications
Active myositis and long-term maintenance of disease remission	Methotrexate	Start with a single dose of 15 mg/week orally or subcutaneously, increasing dose over a period of four weeks to 25 mg/week, depending on clinical symptoms	Is thought to act somewhat faster than azathioprine	Methotrexate may cause pneumonitis, possibly difficult to distinguish from interstitial lung involvement in Jo-1 ASS or MDA-5 DM	Folic acid supplementation needed switching from oral administration to subcutaneous pre-filled syringes often improves tolerability and effectiveness
Second-line immunosuppressants					
Therapy-refractory myositis; when azathioprine and methotrexate fail or lead to toxicity; in cases with lung involvement (ILD)	Mycophenolate acid	Maximum dosage 1500 mg twice daily voor cellcept, and 720 mg twice daily voor myfortic	Is thought to act somewhat faster, and to be more immunosuppressant than azathioprine and methotrexate.	Side-effects: chronic diarrhea, hemolytic anemia, and edema	Evidence from case reports. Use in transplantation medicine.

In cases of ILD in the context of myositis	Tacrolimus	0.075 mg/kg body weight/day, given in 1-2 doses depending on plasma levels and effectiveness			Avoid combination with ciclosporin and take into account potential interactions with drugs metabolized by CYP3A4 enzymes
In patients with severe or rapidly progressive myositis or severe organ involvement (early in treatment process) In patients who fail on initial therapy (most often 2-3 DMARDs have been prescribed; later in treatment process) IIM subtypes: IMNM and Refractory DM	Intravenous immunoglobulins (IVIg)	2g/kg IV in 2-5 days every 4 weeks	Faster mode of action compared to rituximab	Hospitalization needed for first ever gift of IVIg. Risk of thrombosis. Expensive.	Can be given in combination with methylprednisolone pulse therapy.
Third-line therapy					
For rapidly progressive or refractory myositis (also when IVIg is contra-indicated) In patients who fail on initial therapy (most often 2-3 DMARDs have been prescribed) In case of moderate to severe ILD in ASS or in DM with MDA5 antibodies	Rituximab	2 x 1000 mg i.v., administered 14 days apart, with repeated treatment (500-1000 mg) after 6 months. The counting of CD19+ (or CD20+) B cells for clinical value is a matter of debate.	Ample clinical experience exists	Rare side effects are severe opportunistic infections (e.g. progressive multifocal leukoencephalopathy, or PML) and idiopathic thrombocytopenic purpura	Used experimentally and in clinical studies Because of the slower mode of action of RTX (presumed after at least 3 months), RTX can be combined with MPS or IVIg. The efficacy of lower dosages may be studied in the future.
After long-term IVIg treatment (>3-6 months)			Cheaper than IVIg		
If conventional therapy fails, in cases of severe ILD, or presence of overlapping systemic vasculitis	Cyclophosphamide	Doses range from 1-2 mg/kg body weight/day orally or 0.5-1.0 g/m^2 body surface area IV bolus		Side effects: leucopenia, hemorrhagic cystitis, and gonadal toxicity	i.v. administration reduces the risk of side effects compared to oral administration
Presence of MSAs with presumed pathogenicity	Plasmapheresis				1 RCT on plasmapheresis (compared to leucopheresis and sham-pheresis) showed no effect
	Janus kinase (JAK) inhibitors, anti-TNF-alpha therapy, CAR-T cell therapy and other newer compounds in myositis treatment require further clinical trials to establish a stronger evidence base.				

Table 11. Indications, dosage, and further considerations for first, second- and third-line drug therapy in patients with IIM.