Kawasaki disease (mucocutaneous lymph node syndrome)

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Condition for which IVIg has an established therapeutic role.

Specific Conditions	• Kawasaki disease
Indication for IVIg Use	• Early in Kawasaki disease to prevent coronary artery pathology.
Level of Evidence	Clear evidence of benefit (Category 1)
Description and Diagnostic Criteria	Kawasaki disease is an acute, febrile, multi-system disease of children and young infants often involving the coronary arteries. Coronary artery aneurysms may occur from the second week of illness during the convalescent stage. The cause of the condition is unknown, but there is evidence that the characteristic vasculitis results from an immune reaction characterised by T-cell and macrophage activation to an unknown antigen, secretion of cytokines, polyclonal B-cell hyperactivity, and the formation of autoantibodies to endothelial cells and smooth muscle cells. It is likely that in genetically susceptible individuals, one or more uncharacterised common infectious agents, possibly with super-antigen activity, may trigger the disease. **Diagnosis** A diagnosis of Kawasaki disease is generally made if fever of four or more days' duration is associated with at least four of the following changes, which often appear sequentially: • bilateral (non-purulent) conjunctival injection • changes of the mucous membranes of the upper respiratory tract and oropharynx, including diffuse redness of pharyngeal mucosa, dry fissured lips, red fissured lips, and/or 'strawberry tongue' • changes of the extremities, including peripheral erythema, peripheral oedema, and subsequent periungual or more generalised desquamation • polymorphous rash • cervical lymphadenopathy. A diagnosis of Kawasaki disease may be made if fever and fewer than four of the changes listed above are present where there is strong clinical suspicion of Kawasaki disease (refer to Newburger 2004). Between 10% and 20% of cases, particularly in younger infants, present with fever and fewer than four of the listed criteria. Expert advice should be sought. Data support the use of intravenous immunoglobulin (IVIg) while there is ongoing inflammation (usually taken as ongoing fever or raised acute inflammatory markers). Prognosis is worse if IVIg is used 10 days post-onset, but should be used at any time if there is evidence of inflammation. Up to 15% of patients do not respond to initial IVIg therapy. Consensus is for re-treatment with 2 g/kg of IVIg before considering steroids.
Justification for Evidence Category	One high-quality systematic review of 16 randomised controlled trials (RCTs) that showed that IVIg is of benefit in treating Kawasaki disease (Biotext 2004).
Diagnosis Requirements	A diagnosis must be made by an Immunologist, Rheumatologist, Paediatrician or an Intensivist.

Qualifying Criteria for IVIg Therapy	*Therapy should be initiated within 10 days of fever onset if possible; however, children who present after 10 days of fever still should be treated if fever or other signs of persistent inflammation are present.* • Clinical diagnosis of Kawasaki disease has been made.
Review Criteria for Assessing the Effectiveness of IVIg Use	Review is not mandated for this indication however the following criteria may be useful in assessing the effectiveness of therapy. • Clinical response to Ig therapy.
Dose	• **Dose** - 2 g/kg in a single dose over 10–12 hours. Re-treatment with 2 g/kg in a single dose may be given when there is ongoing inflammation. • **Induction dose with impaired cardiac function** - 2 g/kg in a divided dose. **Dosing above 1g/kg per day is contraindicated for some IVIg products** **The aim should be to use the lowest dose possible that achieves the appropriate clinical outcome for each patient.** **Refer to the current product information sheet for further information.**

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