

The Biffl scale or grade illustrates the spectrum of blunt cerebrovascular injury (BCVI) seen on angiography (both CTA and DSA). Some authors refer to the grading scale as the Denver scale, which is not to be confused with the Denver criteria, a set of clinical and risk factors for BCVI. Classification

grade I: mild intimal injury or irregular intima  
grade II: dissection with raised intimal flap / intramural haematoma with luminal narrowing >25% / intraluminal thrombosis  
grade III: pseudoaneurysm  
grade IV: vessel occlusion/thrombosis  
grade V: vessel transection

### Treatment and prognosis

This grading system has prognostic and therapeutic implications. Stroke risk increases with injury grade and therefore the lower the grade, the better the prognosis 1.

grade I: heals regardless of therapy  
grade II: 70% of dissections or haematomas with luminal stenosis progress while on heparin therapy  
grade III: only ~8% of pseudoaneurysms heal with heparin and ~90% resolve after stenting  
grade IV: occluded carotid arteries do not recanalise in the early post-injury period  
grade V: transections are lethal and refractory to therapy

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