Sinusoidal Obstruction Syndrome
For LiverTox

Prepared by
David E. Kleiner, M.D., Ph.D.
Laboratory of Pathology/NCI
Sinusoidal Obstruction Syndrome: This biopsy was taken from a 48 year old man who developed signs of sinusoidal obstruction syndrome following bone marrow transplantation. There is congestion and hemorrhage in zone 3 with spillage of red blood cells in between hepatocytes. This change is associated with hepatocyte necrosis (arrow). The central vein is not clearly seen, but the location is indicated (V). The portal area (P) is also marked for reference.
Sinusoidal Obstruction Syndrome: Here a central vein (V) is clearly seen. There is hemorrhage in the vein wall and narrowing of the lumen by loose connective tissue.
Sinusoidal Obstruction Syndrome: On a Masson trichrome stain, the distinction between the original vein wall (stained blue) and the red colored strands of collagen within the vein lumen (V). In this section, the vessel lumen is almost completely occluded.