Red Flags for Potential Serious Conditions in Patients with Head and Neck Problems

Red Flags for the Head and Neck Region		
Condition	**Red Flag Data obtained during Interview/History**	**Red Flag Data obtained during Physical Exam**
Subarachnoid Hemorrhage – Ischemic Stroke[1,2]	Sudden onset of a severe headache History of hypertension	Concurrent elevated blood pressure Trunk and extremity weakness, Aphasia Altered mental status Vertigo, Vomiting
Vertebrobasilar Insufficiency[3-5]	Dizziness Headaches Nausea Loss of consciousness	Vertigo that lasts for minutes (not seconds) Visual disturbances Apprehension with end range neck movements Unilateral hearing loss Vestibular function abnormalities
Meningitis[6,7]	Headache Fever Gastrointestinal signs of vomiting and symptoms of nausea	Positive slump sign Photophobia Confusion Seizures Sleepiness
Primary Brain Tumor[8-11]	Headache Gastrointestinal signs of vomiting and symptoms of nausea	Ataxia Speech deficits Sensory abnormalities Visual changes Altered mental status Seizures
Mild Traumatic Brain Injury – Post Concussion Syndrome – Subdural Hematoma[12,13]	Dangerous injury mechanism Headache Nausea/vomiting Sensitivity to light and sounds	Loss of consciousness/dazed – an initial Glaslow Coma Scale of 13 to 15 Deficits in short term memory Physical evidence of trauma above the clavicles Drug or alcohol intoxication Seizures

References:

1. Hiroki O, Hidefumi T, Suzuki S, Islam S. Risk factors for aneurysmal subarachnoid hemorrhage in Aomori, Japan. *Stroke*. 2003;34:34-100.
2. Hong YH, Lee YS, Park S. Headache as a predictive factor of severe systolic hypertension in acute ischemic stroke. *Can J Neurol Sci*. 2003;30:210-214.
3. Grad A, Baloh RW. Vertigo of vascular origin. clinical and electronystagmographic features in 84 cases. *Arch Neurology*. 46:281-4, 1989.
4. Szirmai A. Evidences of vascular origin of cochleovestibular dysfunction. *Acta Neurol Scand.* 2001;104:68-71.
5. Silbert PT, Bahram M, Schievink WI. Headache and neck pain in spontaneous internal carotid and vertebral artery dissections. *Neurology*. 1995;45:1517-1522.
6. Hurwitz EL, Aker PD, Adams AH, et al. Manipulation and mobilization of the cervical spine: a systematic review of the literature. *Spine*. 1996;21:1746-1760.
7. Bruce, M, Rosenstein N, Capparella J, et al. Risk factors for meningococcal disease in college students. *JAMA*. 2001;286: 688-693.
8. Berger JP. Buclin T. Haller E, et al. Does this adult patient have acute meningitis? *JAMA*. 1999;282:175-181.
9. Snyder H, Robinson K Shah D, et al. Signs and symptoms of patients with brain tumors presenting in the emergency department. *J Emerg Med*. 1993;11:253-258.
10. Zaki A. Patterns of presentation in brain tumors in the United States. *J Surg Oncology* 1993; 53:110-112.
11. Forsyth PA, Posner JB. Headaches in patients with brain tumors: A study of 111 patients. *Neurology*. 1993; 43:1678-1683.
12. Sobri M, Lamont AC, Alias NA, Win MN. Red flags in patients presenting with headache: clinical indication for neuroimaging. *Brit J Radiology* 2003; 76:532-535.
13. Borg J, Holm L, Cassidy JD, et al. Diagnostic procedures in mild traumatic brain injury: results of the WHO Collaborating Centre Task Force on Mild Traumatic Brain Injury. *J Rehabil Med.* 2004; Suppl. 43: 61-75.