

**CVA: PERSPECTIVES
ROME**

Table 1

**INCIDENCE RATES OF CEREBROVASCULAR ACCIDENTS
ASSOCIATED WITH SPINAL MANIPULATIVE THERAPY**

YEAR	AUTHORS	INCIDENCE
1963	Cyriax ¹⁷	1:10,000,000
1968	Livingstone ¹⁸	"Few" in "possibly 75,000,000" p.a.
1972	Maigne ¹⁹	1:"Several tens of millions"
1980	Jaskoviak ²⁰	(over 15 yr) 0:5,000,000
1981	Hosek <i>et al.</i> ¹²	1:1,000,000
1983	Gutman ^{12,21}	1:400,000
1985	Dvorak & Orelli ^{12,21}	2-3:1,000,000
1991	Patjin ¹⁶	1:518,000
1992	Shekelle ²² (cauda equina/lumbar manipulations)	1:100,000,000
1993	Carey ²³	1:3,846,153
1993	Haldeman ¹⁶	1-2:1,000,000
1994	Haynes ²⁴ (N.B.: This statistic applies to the ratio per patient, not per visit)	1:100,000
1995	Carlini ¹⁶	1:500,000
1996	Lauretti, National Chiropractic Mutual Insurance Company per cervical manipulation ²⁵	1:2,000,000
1996	Lauretti (1 neurological complication per 1 million patient visits ²⁶)	1:1,000,000

* Manipulation-related mortality rate averaged for all professions is 1 in 2 years, 34 over 61 years, worldwide.²¹

** Spinal Mobilisation: In 1993, the physiotherapist Michaeli reported a "...similarity in the nature and prevalence of complications following cervical mobilisation and manipulation..." In some instances the reported incidence rate of adverse effects was higher for mobilisation than manipulation.²⁷