G.1.2.4   Delirium Rating Scale Revised 98 (DRS-R98)

No. of studies	Study design	Sample size	Sensitivity (95%CI)	Specificity (95%CI)	Effect size (95%CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
2 studies (Leonard and Trzepacz) but data not comparable so presented separately.										

No. of studies	Study design	Sample size	Sensitivity (95%CI)	Specificity (95%CI)	Effect size (95%CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
To distinguish Delirium and Delirium superimposed on Dementia from Dementia										
Item Severities:										
Sleep-wake cycle disturbance										
1 (Leonard)	Prospective cohort	144	61.6% (52.5, 70.4)	78.1% (62.5,90.4)	LR+ 2.82 (1.44, 5.51)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.49 (0.37, 0.66)	Serious[1]	N/A	Not serious	Serious[2]	Low
Perceptual disturbances and hallucinations										
1 (Leonard)	Prospective cohort	144	26.8% (19.0, 35.3)	93.8% (83.3, 92.2)	LR+ 4.29 (1.10, 17.0)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.78 (0.68, 0.90)	Serious[1]	N/A	Not serious	Not serious	Moderate
Delusions										
1 (Leonard)	Prospective cohort	144	15.2% (9.2, 22.4)	90.6% (78.6, 98.0)	LR+ 1.16 (0.51, 5.18)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.93 (0.82, 1.07)	Serious[1]	N/A	Not serious	Not serious	Moderate
Lability of affect										
1 (Leonard)	Prospective cohort	144	39.3% (30.5, 48.5)	90.6% (78.6, 98.0)	LR+ 4.19 (1.39, 12.61)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.67 (0.56, 0.81)	Serious[1]	N/A	Not serious	Not serious	Moderate
Language										
1 (Leonard)	Prospective cohort	144	30.4% (22.2, 39.1)	90.6% (78.6, 98.0)	LR+ 3.24 (1.06, 9.86)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.77 (0.65, 0.91)	Serious[1]	N/A	Not serious	Not serious	Moderate
Thought process abnormalities										

No. of studies	Study design	Sample size	Sensitivity (95%CI)	Specificity (95%CI)	Effect size (95%CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Leonard)	Prospective cohort	144	49.1 (39.9, 58.3)	78.1% (62.5, 98.0)	LR+ 2.25 (1.14, 4.44)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.65 (0.50, 0.84)	Serious[1]	N/A	Not serious	Not serious	Moderate
Motor agitation										
1 (Leonard)	Prospective cohort	144	38.4% (29.6, 47.5)	84.4% (70.2, 94.5)	LR+ 2.46 (1.06, 5.68)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.73 (0.59, 0.90)	Serious[1]	N/A	Not serious	Not serious	Moderate
Motor retardation										
1 (Leonard)	Prospective cohort	144	16.1% (9.9, 23.4)	96.9% (88.8, 99.9)	LR+ 5.14 (0.71, 37.06)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.87 (0.78, 0.96)	Serious[1]	N/A	Not serious	Not serious	Moderate
Orientation										
1 (Leonard)	Prospective cohort	144	45.5% (36.3, 54.8)	78.1% (62.5, 90.4)	LR+ 2.08 (1.05, 4.13)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.70 (0.54, 0.90)	Serious[1]	N/A	Not serious	Not serious	Moderate
Attention										
1 (Leonard)	Prospective cohort	144	75.9% (67.6, 83.3)	68.8% (52.0, 83.3)	LR+ 2.43 (1.44, 4.10)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.35 (0.23, 0.52)	Serious[1]	N/A	Not serious	Serious[2]	Low
Short-term memory										
1 (Leonard)	Prospective cohort	144	65.2% (56.2, 73.7)	40.6% (24.5, 57.8%	LR+ 1.10 (0.80, 1.51)	Serious[1]	N/A	Not serious	Serious[2]	Low

No. of studies	Study design	Sample size	Sensitivity (95%CI)	Specificity (95%CI)	Effect size (95%CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
					LR- 0.86 (0.53, 1.40)	Serious[1]	N/A	Not serious	Not serious	Moderate
Long-term memory										
1 (Leonard)	Prospective cohort	144	42.0% (33.0, 51.2)	68.8% (52.0, 83.3)	LR+ 1.34 (0.77, 2.35)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.84 (0.64, 1.12)	Serious[1]	N/A	Not serious	Not serious	Moderate
Visuospatial ability										
1 (Leonard)	Prospective cohort	144	64.3% (55.2, 72.9)	40.6% (24.5, 57.8)	LR+ 1.08 (0.77, 2.35)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.88 (0.54, 1.43)	Serious[1]	N/A	Not serious	Not serious	Moderate
Temporal onset of symptoms										
1 (Leonard)	Prospective cohort	144	64.3% (55.2, 72.9)	87.5% (74.2, 96.4)	LR+ 5.14 (2.04, 13.00)	Serious[1]	N/A	Not serious	Not serious	Moderate
					LR- 0.41 (0.31, 0.54)	Serious[1]	N/A	Not serious	Serious[2]	Low
Fluctuation in symptom severity										
1 (Leonard)	Prospective cohort	144	17.0% (10.6, 24.4)	71.9% (55.4, 85.8)	LR+ 0.60 (0.30, 1.20)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 1.16 (0.92, 1.46)	Serious[1]	N/A	Not serious	Not serious	Moderate
Physical disorder										
1 (Leonard)	Prospective cohort	144	87.5% (80.8, 92.9)	65.6% (48.6, 80.8)	LR+ 2.55 (1.57, 4.13)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.19 (0.11, 0.33)	Serious[1]	N/A	Not serious	Not serious	Moderate
To distinguish Delirium from Delirium superimposed on Dementia										

No. of studies	Study design	Sample size	Sensitivity (95%CI)	Specificity (95%CI)	Effect size (95%CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Item Severities: **Sleep-wake cycle disturbance**										
1 (Leonard)	Prospective cohort	112	74.0% (61.1, 85.1)	46.8% (34.6, 59.2)	LR+ 1.39 (1.05, 1.85)	Serious[1]	N/A	Not serious	Not serious	Moderate
					LR- 0.56 (0.33, 0.95)	Serious[1]	N/A	Not serious	Serious[2]	Low
Perceptual disturbances and hallucinations										
1 (Leonard)	Prospective cohort	112	32.0% (119.9, 45.4)	77.4% (63.3, 86.8)	LR+ 1.42 (0.77, 2.62)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.88 (0.70, 1.11)	Serious[1]	N/A	Not serious	Not serious	Moderate
Lability of affect										
1 (Leonard)	Prospective cohort	112	48.0% (34.4, 61.7)	67.7% (55.7, 78.7)	LR+ 1.49 (0.94, 2.36)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.77 (0.56, 1.05)	Serious[1]	N/A	Not serious	Not serious	Moderate
Language										
1 (Leonard)	Prospective cohort	112	40.0% (27.7, 53.8)	77.4% (66.3, 86.8)	LR+ 1.77 (1.00, 3.14)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.78 (0.60, 1.01)	Serious[1]	N/A	Not serious	Not serious	Moderate
Thought process abnormalities										
1 (Leonard)	Prospective cohort	112	64.0% (50.4, 76.6)	61.3% (49.0, 72.9)	LR+ 1.65 (1.14, 2.41)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.59 (0.39, 0.89)	Serious[1]	N/A	Not serious	Serious[2]	Low
Motor agitation										

No. of studies	Study design	Sample size	Sensitivity (95%CI)	Specificity (95%CI)	Effect size (95%CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Leonard)	Prospective cohort	112	20.0% (10.2, 32.0)	87.1% (77.8, 94.2)	LR+ 1.55 (0.66, 3.63)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 0.92 (0.78, 1.10)	Serious[1]	N/A	Not serious	Not serious	Moderate
Orientation										
1 (Leonard)	Prospective cohort	112	38.0% (25.2, 51.7)	48.4% (36.1, 60.7)	LR+ 0.74 (0.48, 1.13)	Serious[1]	N/A	Not serious	Serious[2]	Low
					LR- 1.28 (0.92, 1.79)	Serious[1]	N/A	Not serious	Not serious	Moderate
Attention										
1 (Leonard)	Prospective cohort	112	80% (68.0, 89.8)	24.7% (17.1, 39.1)	LR+ 1.10 (0.90, 1.36)	Serious[1]	N/A	Not serious	Not serious	Moderate
					LR- 0.73 (0.37 (1.45)	Serious[1]	N/A	Not serious	Serious[2]	Low
Temporal onset of symptoms										
1 (Leonard)	Prospective cohort	112	78.0% (65.7, 88.2)	46.8% (34.6, 59.2)	LR+ 1.47 (1.11, 1.93)	Serious[1]	N/A	Not serious	Not serious	Moderate
					LR- 0.47 (0.26, 0.85)	Serious[1]	N/A	Not serious	Serious[2]	Low
Physical disorder										
1 (Leonard)	Prospective cohort	112	92.0% (83.1, 97.7)	16.1% (8.2, 26.2)	LR+ 1.10 (0.96, 1.26)	Serious[1]	N/A	Not serious	Not serious	Moderate
					LR- 0.50 (0.17, 1.49)	Serious[1]	N/A	Not serious	Serious[2]	Low
2nd study										
Cut off score 17.75 DRS-98 Total										
1	Case-control	37	97.8% (89.3, 100)	82.1% (59.1, 96.7)	LR+ 5.48 (1.78, 16.88)	Serious[3]	N/A	Serious[4]	Serious[2]	Very Low

No. of studies	Study design	Sample size	Sensitivity (95%CI)	Specificity (95%CI)	Effect size (95%CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
(Trzepacz)					LR- 0.03 (0.00, 0.42)	Serious[3]	N/A	Serious[4]	Not serious	Low
Cut off score 21.50 DRS-98 Total										
1 (Trzepacz)	Case-control	37	90.9% (76.2, 98.8)	92.3% (73.5, 99.8)	LR+ 11.82 (1.79, 78.05)	Serious[3]	N/A	Serious[4]	Serious[2]	Very Low
					LR- 0.09 (0.03, 0.37)	Serious[3]	N/A	Serious[4]	Not serious	Low
Cut off score 22.50 DRS-98 Total										
1 (Trzepacz)	Case-control	37	89.1% (73.9, 98.1)	96.4 % (82.7, 100)	LR+ 24.96 (1.64, 380.98)	Serious[3]	N/A	Serious[4]	Serious[2]	Very Low
					LR- 0.11 (0.04, 0.37)	Serious[3]	N/A	Serious[4]	Not serious	Low
2nd study **Cut off score 15.25 DRS-98 Severity**										
1 (Trzepacz)	Case-control	37	97.8% (89.3, 100)	75.9% (50.3, 93.0)	LR+ 3.91 (1.58, 9.72)	Serious[3]	N/A	Serious[4]	Serious[2]	Very Low
					LR- 0.03 (0.00, 0.46)	Serious[3]	N/A	Serious[4]	Not serious	Low
Cut off score 17.00 DRS-98 Severity										
1 (Trzepacz)	Case-control	37	86.4% (69.6, 97.0)	92.3% (73.5, 99.8)	LR+ 11.23 (1.70, 74.35)	Serious[3]	N/A	Serious[4]	Serious[2]	Very Low
					LR- 0.15 (0.05, 0.43)	Serious[3]	N/A	Serious[4]	Not serious	Low

1. Unclear if people administering DRS-R98 were blinded to DSM IV diagnosis.
2. 95% confidence interval for likelihood ratio crosses one end of a defined MID interval – (0.5, 2)
3. Patients selected for dementia or delirium at baseline and research assistant screened patients for suitability before DRS-R98 was carried out.
4. Patients not randomly/ consecutively selected and then diagnosed as in scope