

ECT Policy Guideline - Guiding Document

Titration Charts

As part of the Electroconvulsive Therapy Policy Guideline, approved 11 June 2020, this guiding document is provided to set out titration charts and stimulus dosing used at Glenside Campus, and other SA Health sites, and at The Adelaide Clinic.

Titration guidelines

- > For Brief Pulse (All BT, all BF, and RUL 1 ms):
 - Commence titration at Level 1 (6%) for RUL all women, and RUL men < 50 YO
 - Commence titration at L2 (10%) for all others (all BT and BF and RUL men 50 year old and older).
- > For RUL 0.5 ms and RUL 0.3 ms (UB)
 - Commence everyone at Level 1 (3% for UB and 4% for 0.5 ms)
- > If the patient is on anticonvulsants (benzodiazepines, lamotrigine, valproate etc.) consider commencing titration at one level higher;
- > If the patient has previously had a threshold established by titration, consider commencing at one level below that established threshold;
- > There should be a MAXIMUM of FOUR stimulations per titration session.
- > If the first THREE titrations are sub-threshold, deliver the FOURTH stimulus at what the appropriate dose would be if the next level was the threshold e.g. for RUL UB, if 3, 5 and 7 % were subthreshold, deliver the 4th stimulus at 70%, the therapeutic dose for the next level in the schedule (10%). At the next session continue titration at that next level (in this example, 10%).

Stimulus Dosing Guidelines

- > When EEG quality deteriorates compared to the best EEG for that patient (usually the EEG at the first session post-titration) either:
 - increase to the next level on the chart, according to the placement and PW used, or;
 - consider retitration of threshold, especially if in doubt about EEG quality e.g. in UB, and set dose to titrated threshold.
- > Consider retitrating threshold, (or increasing stimulus dose by 1 level if titration unsuitable), if clinical response has plateaued, regardless of EEG quality.
- > When re-titrating, commence at previous threshold.
- > In RUL UB, re-titrate threshold at session #7, unless:
 - EEG quality remains very good, and;
 - Clinical response has also been good, or;
 - There has been a recent retitration and/or increase in stimulus dose, or;
 - Titration is unsuitable (e.g. for anaesthetic reasons).

Recommendations for ECT Prescription

- > For patients for whom minimising cognitive side effects is the priority, start with RUL UB (0.3 ms) ECT.
 - If a patient responds poorly to RUL UB ECT, consider a switch to either RUL 1ms or BF ECT. For BF ECT use 1 ms PW if efficacy is paramount and 0.5 ms PW if sparing cognition is the priority.
- > For patients in whom speed of response is paramount, start with RUL 1 ms ECT or BF 1 ms ECT (e.g. if RUL has failed in the past).
 - If a patient fails to respond to RUL 1ms ECT switch to BF 1ms ECT.
 - If a patient fails to respond to BF ECT, switch to BT ECT.
- > For patients in whom both likelihood and speed of response is paramount e.g. an emergency, catatonia, high suicidal risk start, with BF ECT. BT ECT might be used in a small number of very urgent cases, but is reserved for 2nd or 3rd line option in the vast majority of circumstances, due to the high risk of cognitive side effects.
- > If using BT ECT for a patient, consider trialling 0.5 ms PW to minimize cognitive side effects in patients who might be vulnerable to these side effects.
- > If a person is left handed, consider BF ECT: use 1 ms PW if efficacy is paramount and 0.5 ms PW if sparing cognition is the priority.
- > If a particular placement or PW has been either effective in the past or, on the other hand, ineffective for that patient, take this into account.
- > For schizophrenia, mania or neuropsychiatric indications consider BF 1ms as a first option and BT 0.5 ms and RUL 1ms as second line options.

Glenside Titration Chart (2018)

ECT Titration and Stimulus Dosing Chart

Glenside Campus SA, 2018

Level	Dose	BITEMPORAL 1ms (DGX)	BIFRONTAL 1 ms (DGX)	RUL 1 ms (DGx)	RUL UB (0.3ms)	
		1 level above (1.33x – 1.5x ST)	1 level above (1.33x – 1.5x ST)	5 levels above (5x – 6x ST) (except L1 = 4 levels)	Level & Dose	Treatment dose
1 BP	5%	Only use for RUL women & RUL men < 50 y.o. Treatment dose is 4 levels higher, not 5 levels → L5 = 30%			1 UB	3% → 20%
2 BP	10%	L3 = 15%	L3 = 15%	L7 = 55%	2 UB	5% → 35%
3 BP	15%	L4 = 20%	L4 = 20%	L8 = 75%	3 UB	7% → 50%
4 BP	20%	L5 = 30%	L5 = 30%	L9 = 100%	4 UB	10% → 70%
5 BP	30%	L6 = 40%	L6 = 40%	L10 = 150%	5 UB	15% → 100%
6 BP	40%	L7 = 55%	L7 = 55%	L11 = 200%	6 UB	20% → 140% (2LP)
7 BP	55%	L8 = 75%	L8 = 75%	200%	7 UB	30% → 200% (2LP)
8 BP	75%	L9 = 100%	L9 = 100%	200%		
9 BP	100%	L10 = 150%	L10 = 150%	200%		
10 BP	150%	L11 = 200%	L11 = 200%	200%		
11 BP	200%	200%	200%	200%		

The Adelaide Clinic (Ramsay Health Care) Titration Chart (2018)

ECT Titration and Stimulus Dosing Chart						Dr Shane Gill Ramsay Health Care SA, 2018			
BRIEF PULSE		BITEMPORAL 1ms 1 level above (1.33x – 1.5x ST)	BIFRONTAL 1ms BITEMPORAL 0.5ms 2 levels above (1.8x – 2x ST)	BIFRONTAL 0.5ms 3 levels above (2.5x – 3x ST)	RUL 1 ms (DGx) 5 levels above (5x – 6x ST) (except L1 = 4 levels)	RUL 0.5 ms – 6x ST		RUL UB (0.3 ms) – 7x ST	
Level	Dose					Level & Dose	Treatment dose	Level & Dose	Treatment dose
1 BP	6%	Only use for RUL women & RUL men < 50 y.o. Treatment dose is 4 levels higher, not 5 levels →			L5 = 30% (5x ST)	1 0.5R	25% (6.25x ST)	1 UB	20% (6.7x ST)
2 BP	10%	L3 = 15% (1.5x ST)	L4 = 20% (2x ST)	L5 = 30% (3x ST)	L7 = 55% (5.5x ST)	4%		3%	
3 BP	15%	L4 = 20% (1.33x ST)	L5 = 30% (2x ST)	L6 = 40% (2.67x ST)	L8 = 75% (5x ST)	2 0.5R	40% (5.71x ST)	2 UB	35% (7x ST)
4 BP	20%	L5 = 30% (1.5x ST)	L6 = 40% (2x ST)	L7 = 55% (2.75x ST)	L9 = 100% (5x ST)	7%		5%	
5 BP	30%	L6 = 40% (1.33x ST)	L7 = 55% (1.83x ST)	L8 = 75% (2.50x ST)	L10 = 150% (5x ST)	2 0.5R	60% (6x ST)	3 UB	50% (7.1x ST)
6 BP	40%	L7 = 55% (1.33x ST)	L8 = 75% (1.88x ST)	L9 = 100% (2.50x ST)	L11 = 200% (5x ST)	10%		7%	
7 BP	55%	L8 = 75% (1.36x ST)	L9 = 100% (1.82x ST)	L10 = 150% (2.73x ST)	200%	4 0.5R	90% (6x ST)	4 UB	70% (7x ST)
8 BP	75%	L9 = 100% (1.33x ST)	L10 = 150% (2x ST)	L11 = 200% (2.67x ST)	200%	15%		10%	
9 BP	100%	L10 = 150% (1.5x ST)	L11 = 200% (2x ST)	200%	200%	5 0.5R	120% (2xLP setting (PW = 0.4 ms) (6x ST)	5 UB	100% (6.7x ST)
10 BP	150% (2x setting)	L11 = 200% (1.33x ST)	200%	200%	200%	20%		15%	
11 BP	200% (2x setting)	200%	200%	200%	200%	6 0.5R	160% (2xLP setting (PW = 0.5 ms) (5.33x ST)	6 UB	140% (2xLP setting (PW = 0.5 ms) (7x ST)
						30%		20%	
						7 0.5R	200% (2xLP setting (PW = 0.7 ms) (5x ST)	7 UB	200% (2xLP setting (PW = 0.7 ms) (6.7x ST)
						40%		30%	