

National Stroke Clot Retrieval Referral Criteria

Clinical criteria for referral

- Moderate to severe stroke (NIHSS ≥ 6)
- Independent pre-stroke (mRS ≤ 2)*
- No acute life-threatening comorbidities*

*Longstanding stable disabilities (e.g. paraplegic, Down syndrome) and poor longer-term prognosis based on existing comorbidities should not detract from referring patients.

Imaging criteria for referral

- No frank, large infarction on NCCT (acceptable size dependent on occlusion site)
- CTA demonstrating ICA, M1, proximal/accessible M2, BA occlusion¹
- P1, P2, A1 and A2 on exceptional basis only

For sites without CTP

- Onset to groin puncture time must be achievable within 6 hours
- The only exception are BA occlusions where groin puncture must be achievable within 12 hours and for stuttering onset of BA occlusion, consideration may be given to extend this further on a case-by-case basis
- All time estimates must take into account estimated transfer times (Appendix 1)

For sites with CTP

- Core must be ≤ 70 ml and core to penumbra mismatch ≥ 1.8 with quantitative software
- Or estimated core to penumbra mismatch $\geq 1:3$ without quantitative software
- Time, core volume, and patient age are important prognostic factors and will be considered by the SCR centre team
- CTP should be used cautiously when excluding patients in the very early time window

NB: This is a guiding document only and all final referral decisions are at the discretion of the treating senior clinicians. There will occasionally be exceptional circumstances that are not covered exhaustively above. In addition, meeting referral criteria does not necessarily guarantee that the patient will be accepted for SCR, which will depend on additional imaging and other considerations and all final decisions are made in consultation with SCR centre team. Furthermore, even if a patient is accepted and transferred, SCR may not always eventuate due to a variety of factors. Patient and whānau expectations should be managed accordingly through effective communication pre- and post-SCR referral supplemented with culturally appropriate written materials. If an SCR centre team does not accept a patient or SCR does not eventuate in a transferred patient, a clear reason should be documented in the medical record and REDCap National Stroke Register for audit purposes

¹ NIHSS= National Health Stroke Scale; mRS=modified Rankin Scale; NCCT=Non-contrast Computed tomography scan; ICA=internal carotid artery; M1 and 2=middle cerebral artery segment 1 and 2 respectively; BA=basilar artery; P1/2 =posterior cerebral artery segment 1 and 2; A1/2=anterior cerebral artery segment 1 and 2; CTP=CT perfusion scan.

Appendix 1:

12-month median (IQR, min, max) CT to groin time by DHB of initial presentation (July 2020 - June 2021).

NSR Programme recommends using 25th percentile (Q25) as indicative values to estimate CT to groin time when deciding on suitability of patient transfers.

DHB OF INITIAL PRESENTATION	N	MEDIAN (Q50)	Q25 MIN	Q25 HRS	Q75	MIN	MAX
NORTHLAND	16	195	177	2.95	252	117	393
WAITEMATA	17	122	116	1.93	148	84	171
AUCKLAND	136	89	66	1.10	118	27	920
COUNTIES MANUKAU	23	145	111	1.85	156	97	1220
WAIKATO	29	209	186	3.10	251	151	1960
LAKES	6	223	216	3.60	250	211	309
BAY OF PLENTY	17	248	225	3.75	295	165	416
TAIRAWHITI ¹	2	305	287	4.82	324	270	341
TARANAKI	9	225	189	3.15	243	147	320
HAWKE'S BAY	6	367	319	5.32	358	277	403
→ WGTN	3	341	326	5.43	372	312	403
→ AKL	3	340	308	5.13	358	277	376
MIDCENTRAL	11	217	136	2.27	267	113	372
→ WGTN	9	159	129	2.15	155	113	284
→ AKL	1	372	372	6.2	372	372	372
→ CHCH	1	258	258	4.1	258	258	258
WHANGANUI ²	2	265	260	4.33	270	255	276
CAPITAL AND COAST ²	30	82	65	1.08	97	38	454
HUTT ²	3	140	121	2.07	143	102	146
WAIRARAPA	3	200	198	3.30	236	195	273
NELSON MARLBOROUGH	9	223	168	2.8	302	160	379
→ WGTN	6	165	162	2.7	168	160	170
→ CHCH	1	276	276	276	276	276	276
WEST COAST	2	285	267	3.61	304	249	322
CANTERBURY	97	88	70	1.05	111	18	385
SOUTH CANTERBURY ³	4	287	262	4.36	312	245	329
SOUTHERN	15	303	225	3.52	398	211	1510
NATIONAL	433	122	82	1.23	212	18	1,534

¹CT times not available so used regional centre arrival to groin time – times will thus be overestimates

²Neither CCDHB nor Hutt or Wairarapa Hospitals had any patients accepted for SCR At Auckland Hospital

³No South Canterbury patients this period so used calendar year 2020 data

NB In Q25 Hrs column 2.5 hours means 2 ½ hours not 2 hours and 50 minutes.