**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 occlusion[[1]](#footnote-1)
* 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 ≥ 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*

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 |
| Tairawhiti1 | 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 |
| Whanganui2 | 2 | 265 | 260 | 4.33 | 270 | 255 | 276 |
| Capital and Coast2 | 30 | 82 | 65 | 1.08 | 97 | 38 | 454 |
| Hutt2 | 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 Canterbury3 | 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.

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. [↑](#footnote-ref-1)