## TRIPOD Checklist: Prediction Model Development

| Section                      | Item | Checklist description                                                                                                                                                                                                 | Reported on Page Number/Line Number | Reported on Section/Paragraph |
|------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------|
| **Title and abstract**       | 1    | Identify the study as developing and/or validating a multivariable prediction model, the target population, and the outcome to be predicted.                                                                                 | Page 1, line 1-2                   | Section :Title, Paragraph 1  |
| Abstract                     | 2    | Provide a summary of objectives, study design, setting, participants, sample size, predictors, outcome, statistical analysis, results, and conclusions.                                                                 | Page 3-4, line 61-99               | Section: Abstract, Paragraph:1-6 |
| **Introduction**             | 3a   | Explain the medical context (including whether diagnostic or prognostic) and rationale for developing or validating the multivariable prediction model, including references to existing models. | Page 5, line 131-140              | Section:Introduction Paragraph:2 |
|                             | 3b   | Specify the objectives, including whether the study describes the development or validation of the model or both.                                                                                                       | Page 5, line 140-143               | Section:Introduction Paragraph:2 |
| **Methods**                  | 4a   | Describe the study design or source of data (e.g., randomized trial, cohort, or registry data), separately for the development and validation data sets, if applicable.                                                      | Page 6, line 147-157              | Section:Study design Paragraph:1-2 |
|                             | 4b   | Specify the key study dates, including start of accrual; end of accrual; and, if applicable, end of follow-up.                                                                                                          | Page 6, line 147-157              | Section:Study design Paragraph:1-2 |
| Participants                 | 5a   | Specify key elements of the study setting (e.g., primary care, secondary care, general population) including number and location of centres.                                                                            | Page 6, line 147-157              | Section:Study design Paragraph:1-2 |
|                             | 5b   | Describe eligibility criteria for participants.                                                                                                                                                                          | Page 6, line                                                             | Section:Study design Paragraph:1-2 |
|                             | 5c   | Give details of treatments received, if relevant.                                                                                                                                                                        | Page 6, line                                                             | Section:Study design Paragraph:1-2 |
| Outcome                     | 6a   | Clearly define the outcome that is predicted by the prediction model, including how and when assessed.                                                                                                                | Page 7, line 193-203              | Section:Diagnosis of AIS      |
|                             | 6b   | Report any actions to blind assessment of the outcome to be predicted.                                                                                                                                                  | Page 7, line 201-203              | Section:Diagnosis of AIS      |
| Predictors                   | 7a   | Clearly define all predictors used in developing or validating the multivariable prediction model, including how and when they were measured.                                                                     | Page 7, line 181-189              | Section:High-resolution CT (HRCT) scan and |
|                             | 7b   | Report any actions to blind assessment of predictors for the outcome and other predictors.                                                                                                                             | Page 7, line 187-191              | Section:High-resolution      |
| Sample size                  | 8    | Explain how the study size was arrived at.                                                                                                                                                                               | Page 5-6, line 147-159            | Section:Study design Paragraph:1-2 |
| Section | Page | Description |
|---------|------|-------------|
| Missing data 9 | N/A | Describe how missing data were handled (e.g., complete-case analysis, single imputation, multiple imputation) with details of any imputation method. |
| Statistical analysis methods 10a | Page 7-8, line 206-214 | Describe how predictors were handled in the analyses. |
| | Page 8, line 212-214 | Specify type of model, all model-building procedures (including any predictor selection), and method for internal validation. |
| | Page 8, line 213-214 | Specify all measures used to assess model performance and, if relevant, to compare multiple models. |
| Risk groups 11 | N/A | Provide details on how risk groups were created, if done. |
| Results | | |
| Participants 13a | Page 8, line 230-236 | Describe the flow of participants through the study, including the number of participants with and without the outcome and, if applicable, a summary of the follow-up time. A diagram may be helpful. |
| 13b | Page 9, line 245-261 | Describe the characteristics of the participants (basic demographics, clinical features, available predictors), including the number of participants with missing data for predictors and outcome. |
| Model development 14a | Page 8, line 230-236 | Specify the number of participants and outcome events in each analysis. |
| 14b | Page 9, line 245-261 | If done, report the unadjusted association between each candidate predictor and outcome. |
| Model specification 15a | Page 10, line 282-287 | Present the full prediction model to allow predictions for individuals (i.e., all regression coefficients, and model intercept or baseline survival at a given point). |
| 15b | Page 9-10, line 269-275 | Explain how to use the prediction model. |
| Model performance 16 | Page 10, line 276-277 | Report performance measures (with CIs) for the prediction model. |
| Discussion | | |
| Limitations 18 | Page 12, line 333-335 | Discuss any limitations of the study (such as nonrepresentative sample, few events per predictor, missing data). |
| Interpretation 19b | Page 11-13, line 290-335 | Give an overall interpretation of the results, considering objectives, limitations, and results from similar studies, and other relevant evidence. |
| Implications 20 | Page 12, line 331-333 | Discuss the potential clinical use of the model and implications for future research. |
| Other information | | |
| Supplementary information 21 | Page 10, line 278-279 | Provide information about the availability of supplementary resources, such as study protocol, Web calculator, and data sets. |
| Funding 22 | Page 12, line 344-345 | Give the source of funding and the role of the funders for the present study. |
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*As the checklist was provided upon initial submission, the page number/line number reported may be changed due to copyediting and may not be referable in the published version. In this case, the section/paragraph may be used as an alternative reference.