 <p style="text-align: center;">CREDIT VALLEY THE CREDIT VALLEY HOSPITAL</p>	CLINICAL PRACTICE GUIDELINE	PROFESSIONAL PRACTICE
TITLE: Management of Acute Ischemic Stroke using TPA		
DATE OF ISSUE: 2002, 06	PAGE 1 OF 7 (Appendix)	NUMBER: CPG 13-0
SUPERCEDES: 1999, 12	ISSUED BY: _____ TITLE: Chief of Medical Staff	
	ISSUED BY: _____ TITLE: President	

Purpose:

To provide a guideline to assist physicians in the medical management of patients with acute ischemic stroke using TPA.

Selection Criteria:

Inclusion:

- clinical diagnosis of stroke with a clinically meaningful neurologic deficit
- clearly defined time of onset of less than 3 h before treatment
- age of 18 years or more
- patient or delegate aware of benefit/risk and agrees to treatment
- normal head CT scan

Exclusion - absolute:

- a) Prior to investigation
- minor or rapidly improving symptoms or signs
 - history of intracranial hemorrhage
 - seizure at stroke onset
 - stroke or serious head injury within 3 months
 - major surgery or serious trauma within 2 weeks
 - GI or urinary tract hemorrhage within 3 weeks
 - persistent systolic BP >185 mm Hg and/or diastolic BP >110 mm Hg
 - lumbar puncture within 1 week
 - current use of oral anticoagulants (PT >15 s, INR >1.7)
 - heparin or Low Molecular Weight Heparin (LMWH) therapy

- other illness that could limit effectiveness or increase risk of bleeding in the judgement of the physician

Exclusion - relative:

- pregnancy
- pericarditis

Exclusion - absolute:

- b) Following CT scan and blood work
- CT evidence of cerebral hemorrhage or acute infarction involving more than 1/3 of middle cerebral artery territory
 - significant coagulopathy
 - platelets <100,000 x 10⁹/L
 - blood glucose <3 or >22 mmol/L

Diagnostic Workup:

When patients initially present with sudden onset of acute ischemic stroke that fit the above selection criteria then Part A of the preprinted orders (includes stat CT of the head – stroke protocol) "Acute Ischemic Stroke - TPA" should be initiated. [\(#00003 D HR effective Jan 23/2003\)](#)

Treatment and Monitoring:

Upon completion and interpretation of the head CT scan and receipt of blood results the Neurologist or Internist if Neurologist not available will be contacted to decide whether the patient is eligible for TPA based on the selection criteria. If a Neurologist/Internist is not available to initiate TPA and the onset of symptoms are less than 2 hours, consider transferring the patient to the Regional Stroke Centre following the CT scan. The Neurologist/Internist may initiate TPA treatment by completing Part B of the preprinted orders "Acute Ischemic Stroke - TPA" [\(#00003 D HR effective Jan 23/2003\)](#) or by giving a verbal order to the ER physician or MRP.

Algorithm: Management of Acute Ischemic Stroke Using TPA - ER Patients

See Appendix 1

Algorithm: Management of Acute Ischemic Stroke Using TPA - Inpatients

See Appendix 2**Suspected Intracranial Hemorrhage following TPA**

Refer to the Clinical Practice Guideline – Management of Thrombolytic Induced Major Bleeding, Number 19-25. The adapted algorithm "Management of Thrombolytic Induced Intracranial Hemorrhage (ICH)" from this guideline is included in Appendix 3.

Responsibilities:**Physicians:**

All physicians may initiate this guideline by completing Part A of the preprinted orders "Ischemic Stroke - TPA" ([#00003 D HR effective Jan 23/2003](#)). Preprinted order sheets are available in the Emergency Department.

Neurologist/Internist

The Neurologist or Internist if Neurologist not available will make the final decision about the eligibility of the patient to receive TPA. The Neurologist/Internist may initiate TPA treatment by completing Part B of the preprinted orders "Ischemic Stroke - TPA" or by giving a verbal order to the ER physician or MRP ([#00003 D HR effective Jan 23/2003](#)). Preprinted order sheets are available in the Emergency Department.

The Neurologist/Internist will explain the benefits/risks to the patient or delegate. If the Neurologist/Internist is not on site the benefits/risks will be explained by the ER physician or MRP.

MRP

The patient will be admitted to ICU under the care of the intensivist.

Patient Education:

The following benefits/risks of TPA treatment will be reviewed with the patient or delegate.

According to the 1995 study by the National Institute of Neurological Disorders and Stroke Study Group, in properly selected patients who received TPA within 3 hours of an ischemic stroke:

- for every 100 patients receiving TPA, at least 11 more compared to no treatment had an excellent recovery at discharge
- a 30% increase in complete or almost complete recovery was seen at 3 months compared to those who did not receive TPA
- a worsening of strokes within 36 hours due to intracranial hemorrhage was seen in 6.4% of patients who received TPA compared to 0.6% of patients who did not receive TPA

Evaluation:

All patients receiving TPA for stroke will be evaluated. The endpoints monitored will include morbidity/mortality and length of stay. As well, physician compliance with the guideline will be evaluated.

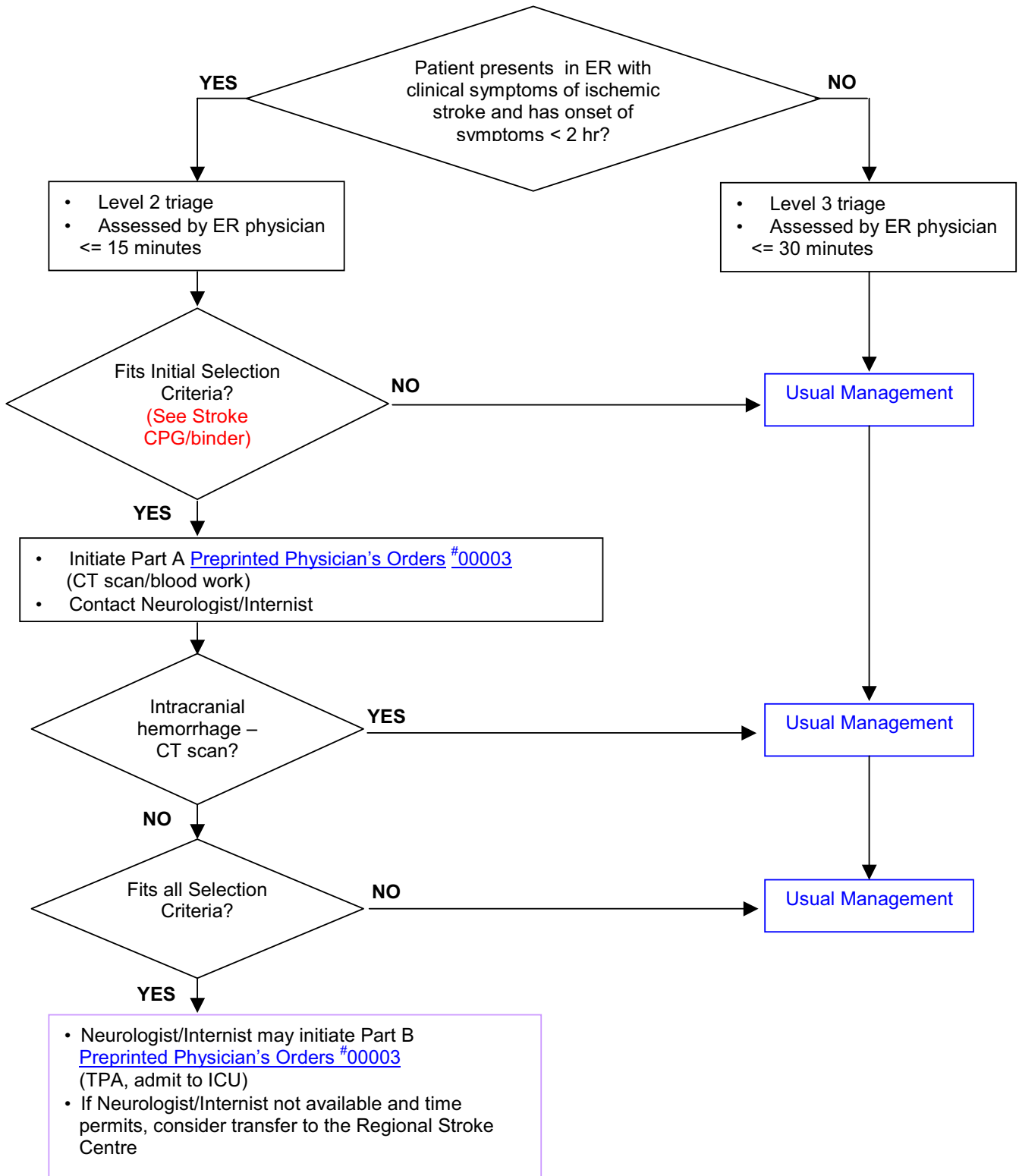
References:

- 1) Albers GW, Amarenco P, Easton JD, Sacco RL, Teal P. Antithrombotic and thrombolytic therapy for ischemic stroke. Chest 2001; 119: 300S-320S
- 2) Kwiatkowski TG, Libman RB, Frankel M, Tilley BC et al. Effects of tissue plasminogen activator for acute ischemic stroke at one year. NEJM 1999; 340: 1781-1787.
- 3) Consensus statement of the Canadian Stroke Consortium. Canadian guidelines for IV thrombolytic treatment in acute stroke. Can J Neurol Sci 1998; 25: 257.
- 4) AHA Medical/Scientific Statement. Guidelines for thrombolytic therapy for acute stroke: a supplement to the guidelines for the management of patients with acute ischemic stroke. Circulation 1996; 94: 1167-1174.
- 5) Benavente O, Hart R. Stroke: part II. management of acute ischemic stroke. Am Fam Physician 1999; 59: 2475-82.
- 6) The National Institute of Neurological Disorders and Stroke rt-PA Stroke Study Group. Tissue plasminogen activator for acute ischemic stroke. NEJM 1995; 333:1581-7.
- 7) Heart and Stroke Foundation of Canada. STEP (Stroke Treatment Education Program). 1422.v4.

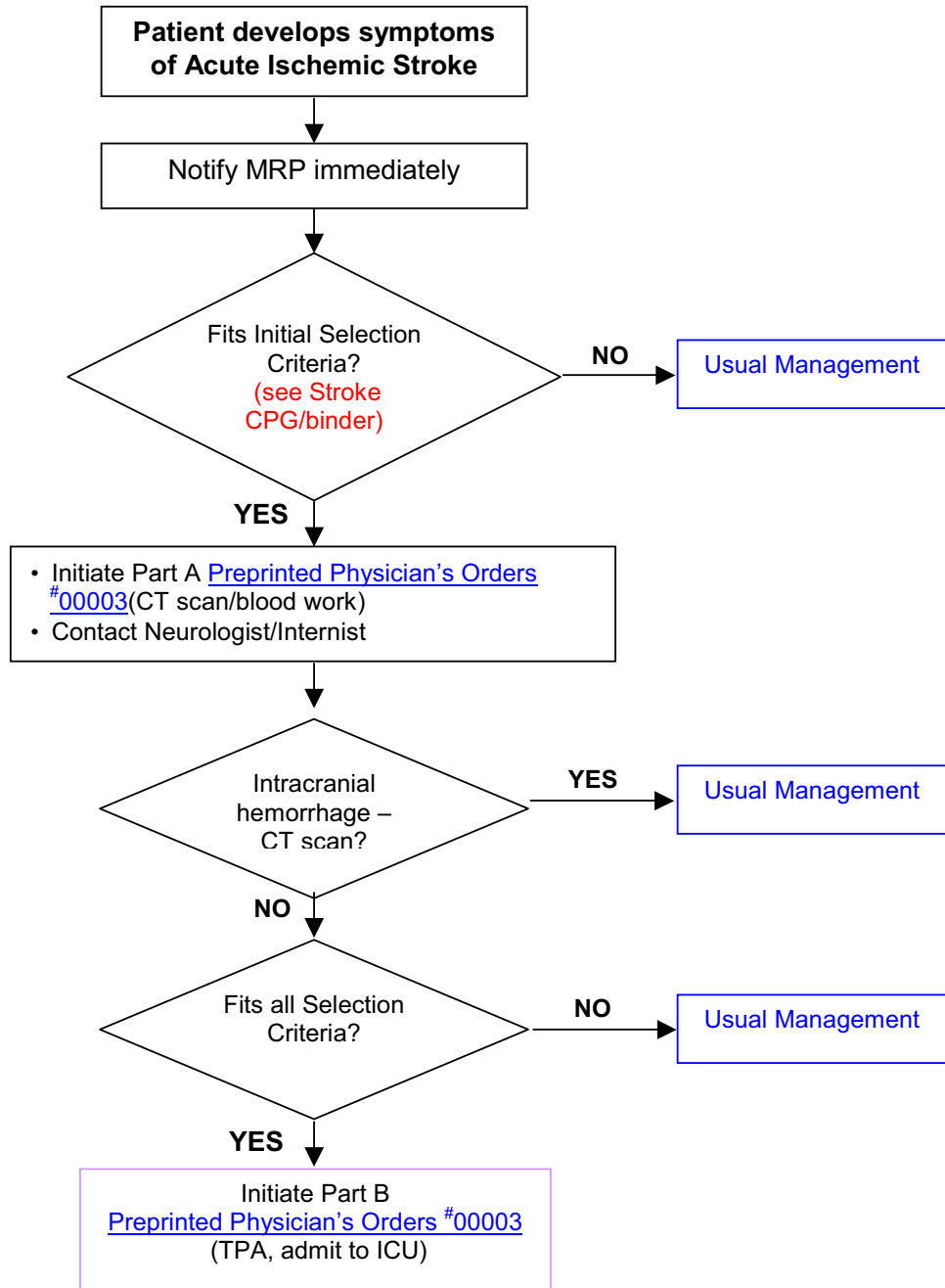
Approval:

Medical Advisory Committee: June 2002

Appendix 1
**Management of Acute Ischemic Stroke using TPA
(ER Patients)**



Appendix 2
**Management of Acute Ischemic Stroke using TPA
(Inpatients)**



Management of Thrombolytic Induced Intracranial Hemorrhage (ICH)

