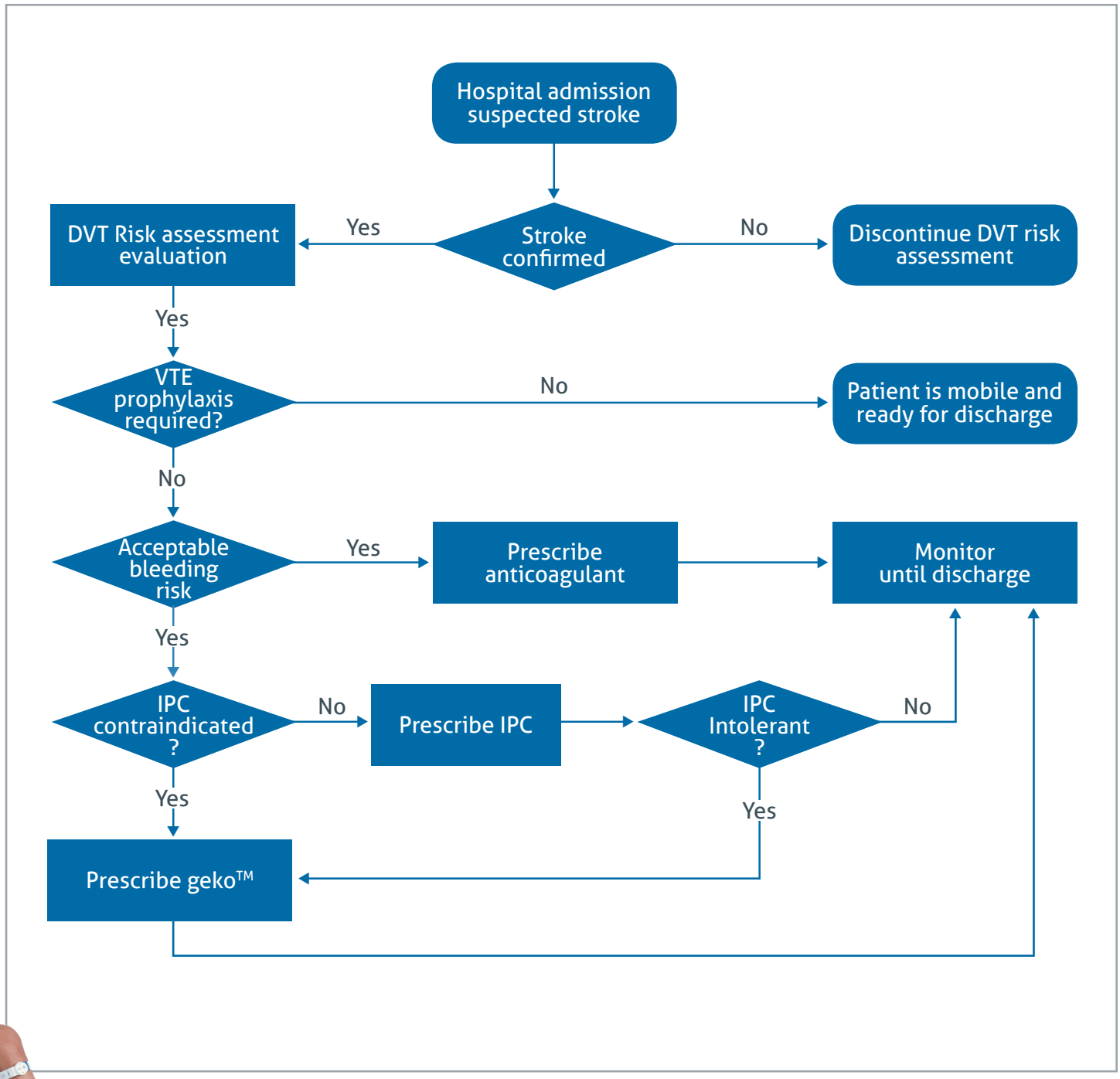
The geko™ device patient selection algorithm



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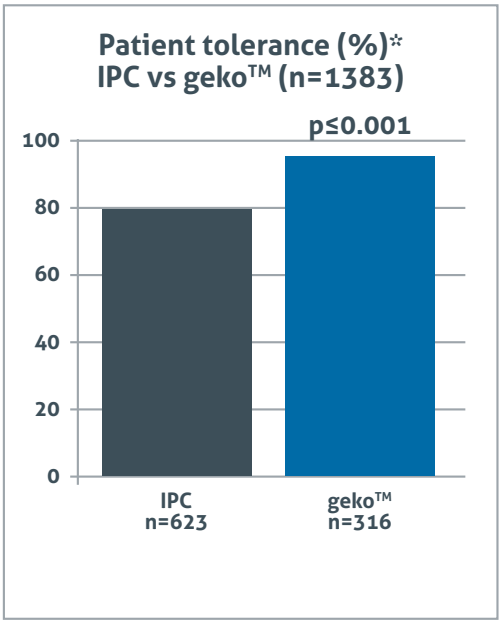
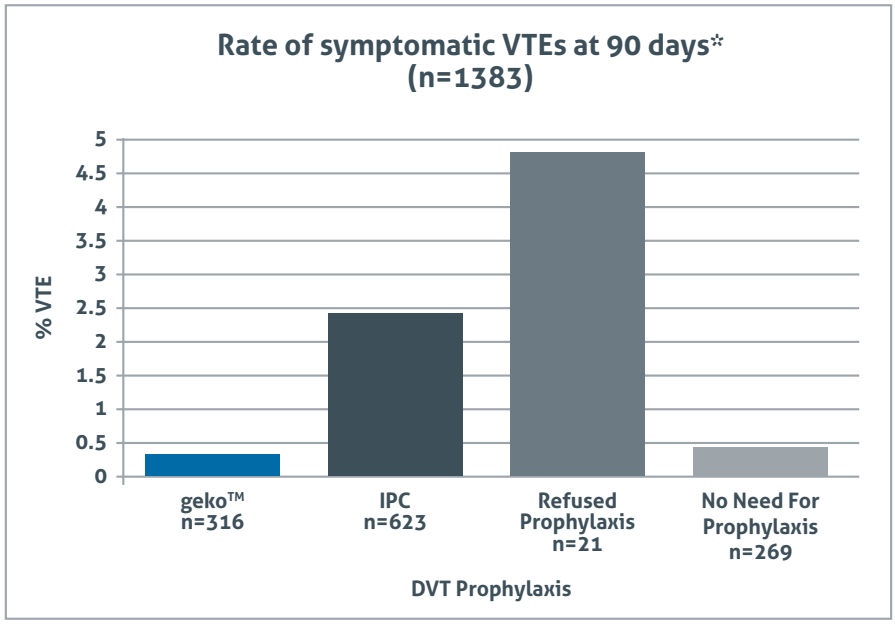
Population
The audit included every patient admitted to the Acute Stroke Unit at Royal Stoke University Hospital (RSUH) in Stoke-on-Trent, Staffordshire, UK and resident within Staffordshire or Newcastle. RSUH is a 32 bed combined hyperacute and acute stroke unit admitting about 1200 patients with suspected acute stroke per annum.

The VTE prevention pathway
All stroke patients who are immobile (defined as not able to walk independently) are given VTE prophylaxis, unless they are dying, refuse the intervention, have contraindications, or are fully anticoagulated. Every patient is reviewed daily on a nurse-led VTE ward round to monitor compliance with VTE prophylaxis and complications. Patients are also assessed at regular intervals throughout the day by a member of the stroke unit nursing team to check for compliance and complications.
In addition to generic measures (adequate hydration, early mobilization, aspirin 300 mg/day for the first 3 weeks for patients with ischaemic strokes) the primary method of VTE prophylaxis in immobile stroke patients is IPC (IPC alone), unless contraindicated. Prophylactic low-dose anticoagulation is not given routinely. If patients are fully anticoagulated for other reasons no VTE prophylaxis other than the generic measures above is provided. Surface neuromuscular stimulation of the peroneal nerve using the geko™ is used as primary VTE prophylaxis (geko™ alone) for patients with contraindications to IPC. The geko™ device is also used when IPC pumps or sleeves are not available. Patients are switched from IPC to geko™ if they do not tolerate IPC).
If patients are non-compliant this is documented, and an alternative form of VTE prophylaxis is considered.

Data collection
Data on VTE prevention method, compliance, duration of use, tolerance, and complications were collected daily by the VTE nurse for every patient on the unit. Data on VTE incidence while the patient was in hospital was collected centrally from the VTE registry. This registry has details of every inpatient where a diagnosis of DVT or pulmonary embolism as made using Doppler, angiograms, computed tomography or ventilation perfusion scanning. Information on VTE following discharge was ascertained via telephone follow-up by the VTE nurse at 90 days.





Patient tolerance
In total 142 patients (19.9%) prescribed IPC did not tolerate IPC and 26 patients prescribed the geko™ (7.5%) did not tolerate the device.

The overall 90-day rate of symptomatic VTE in the study was 1.4%. At risk patients who refused prophylaxis had a rate of 4.8%. Symptomatic VTE was diagnosed in 2.4% of patients prescribed IPC alone, and in 1% of those prescribed IPC initially and the geko™ device as a secondary intervention. Patients who were mobile and did not require mechanical prophylaxis had a symptomatic VTE rate of 0.48%.

There was no DVT or PE diagnosed in patients treated with the geko™ device as the primary VTE prophylaxis.

*Data On File firstkind

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