A "preamputation care pathway" reduces mortality for lower limb amputation

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Lower limb amputation due to peripheral arterial disease is common. The comorbid nature of this patient group makes management challenging. The aims of the study were 1) to introduce a novel "preamputation care pathway" to facilitate perioperative care and 2) to evaluate whether such a pathway is able to reduce morbidity and mortality. All patients undergoing lower limb amputation over 12 months were prospectively identified. Patient demographics were recorded before statistical analysis was performed. Twelve limbs were amputated (mean age, 69 years; mean American Association of Anesthesiologists score, 3.36). The mean time from presentation to amputation was 16.83 days. Eighty percent of patients were admitted to a critical care bed postoperatively. The mean time that patients stayed in a critical care environment was 2.62 days (range, 0–6 days). After a stay in the critical care unit, 90% of patients were stepped down to a health care of the elderly ward. One patient died in less than 30 days, representing a 10% 30-day mortality rate. The mean inpatient stay was 47 days (range, 19–121 days). Eighty percent of patients who underwent amputation in less than 10 days survived to discharge. In contrast, only 25% of patients who underwent amputation after day 11 survived to discharge (P = .0384). In conclusion, the implementation of the "preamputation care pathway" has reduced the 30-day mortality rate to 10%. A similar model of care currently exists for fractured neck of femur patients and is outlined by the care standards into "Best Practice Tariff" for the care of fractured neck of femur. A similar model should be implemented for patients undergoing lower limb amputation. (J Vasc Nurs 2016;34:54-58)

Peripheral arterial disease caused by atherosclerotic plaque formation is common and is thought to affect approximately 20% of the general population aged older than 55 years.[1,2] The prevalence of the condition increases with age and is associated with significant comorbidity. Managing this patient group is complex because of the increased risk of perioperative complications that lead to increased morbidity and mortality.[3,4]

Several reports have emphasized the importance of a multidisciplinary team approach to optimize patient care. Advice from a consultant in old age (geriatric) or rehabilitation medicine early in preoperative planning is advocated, whereas specialist nurses, physiotherapists, and occupational therapists are required to facilitate patient care and optimize rehabilitative potential.[5,6]

This article outlines a novel "preamputation care pathway," which implements the recommendations outlined by the National Service Framework (NSF) for older people and the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report "an age old problem."[5,6] The pathway introduces a model that can be implemented to facilitate the management of patients who require lower limb amputation (Figure 1). It is suggested that these care standards could provide a framework for "Best Practice Tariff" as implemented in the care of fractured neck of femur.

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AIM

1) To introduce a novel "preamputation care pathway" that incorporates the standards set out by the NSF for older people and NCEPOD report "an age old problem" that can be implemented in acute National Health Service trusts.
2) To evaluate whether the implementation of these standards and the utilization of a multidisciplinary team approach can improve the morbidity and mortality for those patients undergoing lower limb amputation.

CARE STANDARDS

The NCEPOD report "an age old problem" acknowledges the medical challenges posed by the rapidly expanding population of elderly people in the United Kingdom.[5] Falls are a frequent cause for hospital admission in the older than 65 years age group. Many never regain full mobility and independence.[7] NCEPOD reports that the most common operative procedures in the elderly were hemiarthroplasty (24%), laparotomy (13%), and amputation.[8] Eight principle recommendations were made to improve the perioperative care of elderly patients, which were incorporated into the "preamputation care pathway."

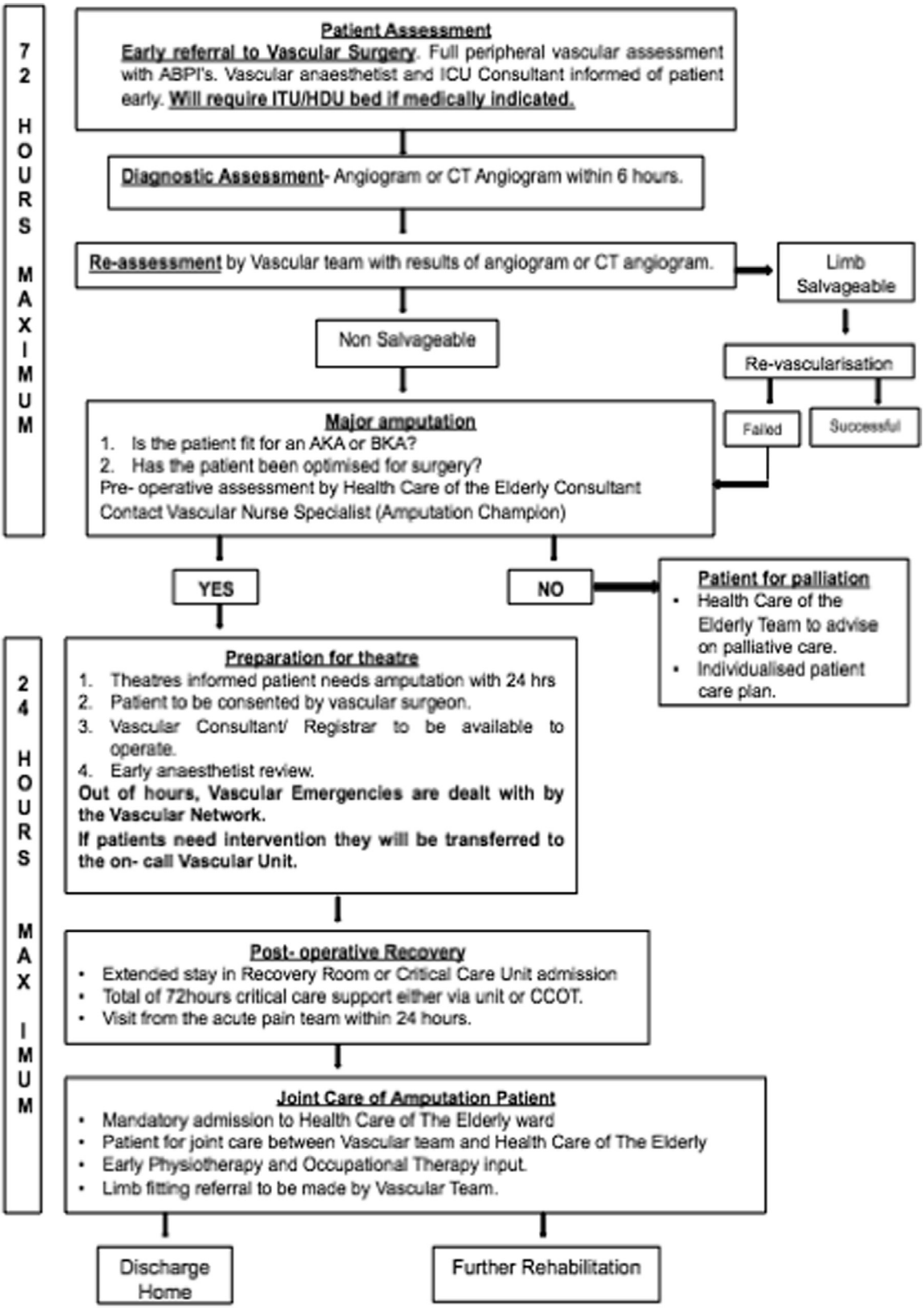

Figure 1. *The "preamputation care pathway." The pathway outlines the management of patients with suspected lower limb ischemia and implements the recommendations of the NCEPOD and NSF reports. ABPI = ankle brachial pressure index; AKA = above-knee amputation; BKA = below-knee amputation; CCOT = critical care outreach team; CT = computed tomography; ICU = intensive care unit; NCEPOD, = National Confidential Enquiry into Patient Outcome and Death; NSF = National Service Framework.*