Post–intensive care syndrome

Screening and management in primary care

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This article is the second in a two-part series, outlining the key aspects of screening and primary care management of post–intensive care syndrome.

Background
Post–intensive care syndrome (PICS) affects as many as 50% of intensive care unit (ICU) survivors, and symptoms can persist for months to years. When psychological symptoms are experienced by patients' loved ones, this is termed PICS-family (PICS-F). Patients with these syndromes represent a frequently underrecognised and suboptimally managed cohort.

Objective
The aim of this article is to outline the key aspects of screening and primary care management, providing an evidence-based framework for general practitioners (GPs).

Discussion
PICS screening is not well defined. The breadth of symptoms, along with the absence of a national consensus, renders in-depth assessment a significant undertaking. Community management relies on a coordinated effort from the whole multidisciplinary team, spearheaded by the GP, and focuses on three key areas: 'information and education', 'assessment and therapy' and 'personal support'. Collaboration between key stakeholders is needed to improve outcomes in this hitherto underrecognised patient population.

POST-INTENSIVE CARE SYNDROME (PICS) refers to a constellation of cognitive, psychiatric and physical symptoms experienced by patients during and following a period of critical illness. When psychological symptoms are experienced by patients' loved ones, this is termed PICS-family (PICS-F).The first article in this two-part series summarised the key facets of PICS and PICS-F with a focus on incidence and pathophysiology.[1] This second article outlines the key aspects of screening and primary care management.

Screening

Patients with PICS represent a significant and underdiagnosed cohort with complex health needs. In many countries, specialist intensive care unit (ICU) follow-up clinics conduct initial evaluations for PICS and coordinate rehabilitation services. However, Australia has only two post-ICU clinics;[2] as a result, this key role falls to the general practitioner (GP).

A suggested framework for comprehensive assessment of patients for PICS in primary care is outlined in Box 1 and reflects some of the key goals of established clinics such as the Vanderbilt ICU Recovery Centre.[3] Which ICU survivors require dedicated follow-up and the optimal timing for this is a matter of debate. The National Institute for Clinical Excellence in the UK recommends that all patients with an ICU admission exceeding four days should be reviewed 2–3 months after discharge from critical care.[4] Given the absence of a validated, all-encompassing PICS screening tool, the choice of psychometric test should be at the discretion of the individual clinician.

The current state of affairs is challenging. PICS screening is not well defined, and the absence of an established care pathway for ICU survivors means responsibility is not clearly delegated. The breadth of symptoms associated with PICS renders in-depth screening a significant undertaking, far exceeding what could routinely be achieved in a single GP consultation.

These difficulties outline the need for a national consensus regarding patient assessment post–critical illness. Further direction and support are required to aid GPs in performing their vital role.

Management

In a qualitative study exploring what ICU survivors believed was central to their rehabilitation,[5] three key components emerged: 'information and education', 'assessment and therapy' and 'personal support'.

Information and education

Issues of ICU survivorship are seldom addressed during hospital admission, leaving patients and caregivers feeling frustrated, anxious and unprepared for the future.[6]

In a multicentre study evaluating ICU rehabilitation programs, information regarding expected trajectory of recovery,

along with feasible goal setting, were frequently reported by patients to be beneficial. The process of identifying and meeting targets, with validation of progress from clinicians, was considered important for improving patient motivation and self-esteem. High-quality online educational resources from organisations such as ICUsteps and THRIVE can help supplement information delivered in primary care (Box 2).

Assessment and therapy

Long-term prognosis for patients with PICS is highly variable and largely depends on the severity of illness, degree of impairment and premorbid functional status. At present, no best practice guidelines exist regarding rehabilitation; however, several core components are well established (Table 1). The complex and multifaceted nature of PICS warrants an integrated approach to care.

Physical

Early inpatient physical therapy has been shown to provide significant benefits in health-related quality of life and physical function.[7] Enhanced exercise rehabilitation after hospital discharge is, however, less well evidenced. While some studies have shown improvements in functional and psychological status, a 2016 Cochrane analysis found insufficient evidence to determine an overall benefit.[7]

Nevertheless, GPs who identify ongoing impairment should refer patients for community assessment and treatment while recognising that recovery can be slow and some patients never regain premorbid levels of function.

Cognitive

Cognitive rehabilitation programs aim to restore lost function through brain training exercises and by teaching compensation strategies to help patients circumvent impairments. Research in patient populations analogous to ICU survivors has shown long-lasting improvements in executive function quantified by functional magnetic resonance imaging, neurophysiological testing and subjective measures.[8] Novel programs combining cognitive and physical rehabilitation have yielded encouraging outcomes in ICU survivors, further substantiating the importance of taking a holistic approach.[9]

Patients with significant cognitive impairment should be considered for referral to a neuropsychologist for formal testing and treatment.

Psychological

Scant research exists evaluating the best approach for managing the psychological sequelae of PICS, with much of the literature focused on prevention strategies in ICUs. Consequently, health professionals have relied on conventional treatment for anxiety, depression and post-traumatic stress disorder consisting of pharmacotherapeutics and psychotherapy. GPs are well placed to monitor psychological wellbeing of patients and provide important interventions, such as psychoeducation. Helping patients understand PICS normalises their experience, facilitating acceptance and recovery.

Patients with particularly severe psychological disturbance may require specialist treatments, such as trauma-focused cognitive behavioural therapy (CBT), stress inoculation training and eye movement desensitisation and reprocessing.

Despite treatment, longitudinal assessment of ICU survivors suggests ongoing high prevalence and severity of psychological sequelae at one year post–critical illness.[10]

The morbidity of PICS-F, however, appears to improve with time and appropriate management in the majority of patients.[11] Therapeutic interventions designed to enhance family member resilience and coping have been shown to be effective.[12]

Personal support

Peer support groups (PSGs) are being explored worldwide as a means to enhance the resilience of survivors and their loved ones. Peers have experiential knowledge and are thus uniquely placed to provide empathy, practical advice and support. Fostering a sense of community is thought to promote feelings of social and emotional wellbeing and increased self-efficacy.[13] For families, support groups provide an opportunity to develop support networks with other relatives as well as a forum to better understand what their loved one has been through.

Box 1. Key objectives of patient assessment post–critical illness

Identify new or worse physical, psychological and/or cognitive morbidity

- General screening[15]
  - Use validated quality-of-life tools such as Medical Outcomes Study Short-Form questionnaire (SF-36) or EuroQol Five Dimensions (EQ-5D)
- Focused screening[10]
  - Depression (eg Becks Depression Inventory [BDI] or Hospital Anxiety and Depression Scale [HADS])
  - Anxiety (eg Beck Anxiety Inventory [BAI] or Depression Anxiety Stress Scale [DASS])
  - Post-traumatic stress disorder (eg Post-traumatic Symptoms Scale [PTSS-10] or Impact of Events Scale – Revised [IES-R])
  - Cognitive impairments (eg Montreal Cognitive Assessment [MoCA])

Review inpatient functional assessments

- Such as pulmonary function tests, six-minute walk test

Counselling

- Debrief critical illness
- Discuss prognosis, expected trajectory of recovery, potential future challenges
- Identify patient priorities for recovery
- Set realistic goals[16]
- Targeted and generalised education as indicated

Ensure appropriate home health assessment by allied health professionals

Table 1. Key components of post–intensive care syndrome rehabilitation

Physical	• Muscle strengthening programs and dedicated pulmonary rehabilitation help patients overcome deconditioning and improve respiratory function[17] • Fatigue management strategies such as energy conservation techniques, the 'pace, plan, prioritise' approach and graded exercise therapy • Supportive equipment and home adaptations may be required in both the short and long term • Speech and swallow assessments
Cognitive	• Standardised cognitive rehabilitation programs aim to restore function and/or teach compensation strategies to circumvent persisting impairments[6]
Psychological	• Environmental changes such as increased activity, relaxation exercises, mindfulness, improved sleep hygiene and alcohol reduction • Psychological interventions such as cognitive behavioural therapy (CBT), interpersonal therapy, psychodynamic psychotherapy and counselling[17] • Pharmacotherapy • Specialist treatments such as trauma-focused CBT, stress inoculation training and eye movement desensitisation and reprocessing

To date, research into the efficacy of PSGs in PICS is equivocal, although their benefit is well established in other populations, such as cancer patients.[14]

Currently, only two Australian health services, in Melbourne and Adelaide, run PSGs as part of the international THRIVE collaborative. Clinicians interested in establishing local groups are encouraged to visit the THRIVE website (Box 2).

COVID-19

The COVID-19 pandemic has presented challenges in managing this complex patient population. Social distancing requirements have necessitated the use of telemedicine, and healthcare professionals have had to quickly adapt to new models of care. Fortunately, there is encouraging evidence that online cognitive rehabilitation and telepsychiatry are effective. Data from pilot studies examining remote physical rehabilitation programs also appear promising.

Box 2. Useful resources for general practitioners and patients

- ICUsteps, https://icusteps.org
- Society of Critical Care Medicine – MyICUCare and the THRIVE initiative, www.sccm.org/MyICUCare/THRIVE
- Healthtalk, https://healthtalk.org/intensive-care-patients-experiences/overview
- ARDS foundation, https://ardsglobal.org

Conclusion

Community management begins with the prompt recognition of PICS and relies on a coordinated effort from the whole multidisciplinary team, spearheaded by the GP.

Improved outcomes in this hitherto underrecognised patient population would benefit from further collaboration between key stakeholders in primary and secondary care, ideally leading to the establishment of a structured post-ICU care pathway.

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