

ORIGINAL PAPERS

A review of one year of British Armed Forces mental health hospital admissions

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Abstract

Objectives The paper provides a review of one year of military Mental Health (MH) hospital admissions. This includes an exploration into demographic trends, differences in clinical opinion and how information gained is used to improve the service and ensure appropriate, cost effective care in the optimum environment.

Methods The sample group is entitled military MH hospital admissions from 1 April 2005 to 31 March 2006. Data was collected on questionnaires with SPSS used for the management and analysis of the quantitative data, with the information exposed to descriptive and inferential statistical analysis.

Results There were 344 admissions. The paper contains a detailed review of a number of variables. Depression was the most common diagnosis resulting in 112 (33%) hospital admissions and Post Traumatic Stress Disorder accounted for 23 (7%). There were statistically significant differences that may be attributable to gender with more women admitted with depression and more men with alcohol related disorders. The average length of stay was 21 days, with 48% of patients discharged within 3 weeks. 45% of all returns included significant events reporting that highlighted written evidence of good and poor practice.

Conclusion This study is part of an extensive monitoring programme of military MH hospital admissions. Depression is the most common MH problem leading to hospital admission. The results indicate that Service-personnel have access to a highly responsive service that provides brief assessment and treatment within a safe therapeutic environment. 45% of returns included significant event information that resulted in policy changes, leading to improved patient care and a better interface with the NHS. Bench-marking, both internally between military Departments of Community Mental Health and externally have improved visibility and self awareness leading to better GP induction programmes, PHC educational seminars and the establishment of MH web-pages. The Armed Forces need an effective MH service that is accessible, readily available, non-stigmatised and which positively advocates a duty of care. The results highlight the importance of further studies regarding depression to ensure that the Armed Forces are in a better position to maximise the use of MH resources.

Introduction

The British Defence Mental Health Services (DMHS) aim to maximise the psychological support to Service personnel by providing immediate Mental Health (MH) provision with the expectation that staff will return to duty. The DMHS focus is on meeting the operational imperative of producing a capable workforce, able to undertake their military duties without mental health problems. Military MH is high profile, and is frequently highlighted within the media, sometimes in a less than positive light (1-3).

On the 1 April 2004, the British Armed Forces psychiatric in-patient facility, the Duchess of Kent's Psychiatric Hospital (DKPH), was closed and the Defence Medical Services Directorate (DMSD) acquired responsibility for the DMHS in the United Kingdom. The aim was to provide a clearly defined integrated care pathway between Primary Health Care (PHC),

military Departments of Community Mental Health (DCMHs) and Secondary Health Care (SHC). There are 15 DCMHs in the United Kingdom, and Service personnel serving in Germany, Cyprus and Gibraltar are supported in their host country or can evacuate back to Great Britain.

To replace the void left by the closure of the DKPH, a contract for the provision of in-patient care was established with an Independent Sector Provider (ISP), the Priory Group of Hospitals, following the completion of a tendering process. This agreement does not dilute the responsibilities of the National Health Service which can still be accessed for psychiatric emergencies. A clear advantage of the Priory Group over the DKPH is the extensive geographic clinical provision throughout Great Britain that ensures that the military philosophy of proximity, immediacy and expectancy (4) is maintained by providing hospital care close to military units.

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Background

Performance indicators and military satisfaction surveys indicate that the British Armed Forces MH service is of a very high standard (5). In over 95% of occasions, urgent MH referrals

| Diagnosis | Primary Diagnosis* Total (%) | Single diagnosis** Total (%) | Co- morbidity† Total (%) |
|--------------------------|------------------------------------|------------------------------------|--------------------------------|
| Depression | 112 (33) | 81 (32) | 147 (34) |
| Alcohol Related | 93 (27) | 73 (29) | 112 (26) |
| Adjustment Reaction | 46 (13) | 34 (14) | 55 (13) |
| Psychotic Illness | 29 (8) | 26 (10) | 29 (7) |
| PTSD | 23 (7) | 8 (3) | 29 (7) |
| DSH | 9 (3) | 5 (2) | 9 (2) |
| No Psych Diagnosis | 8 (2) | 8 (3) | 8 (2) |
| Substance Abuse | 6 (2) | 5 (2) | 8 (2) |
| Anxiety Related | 6 (2) | 3 (1) | 6 (1) |
| Personality Disorder | 4 (1) | 2 (1) | 11 (3) |
| PND | 2 (0.5) | 1 (0.5) | 2 (0.5) |
| Eating Disorders | 2 (0.5) | 2 (1) | 8 (2) |
| OCD | 2 (0.5) | 1 (0.5) | 1 (0.25) |
| Acute Stress Reaction | 2 (0.5) | 1 (0.5) | 2 (0.5) |
| TOTAL | 344 | 250 | 427 |

Table 1 Breakdown of admissions by primary diagnosis, single diagnosis and co-morbidities.

*Main diagnosis leading to admission ** Admitted with only one MH diagnosis †The number of times condition diagnosed in all admissions

receive a DCMH assessment within one working day, routine cases are seen within 20 working days, and when required, the Priory provides a hospital bed within four hours. This provides a robust service that significantly reduces risk and minimises the stressors on PHC clinicians. The first author has responsibility for monitoring the MOD / Priory Hospital clinical interface and since December 2003 there have been over 1,000 hospital admissions. However, the details of these admissions have not previously been published, and the media interest focuses on Post Traumatic Stress Disorder (PTSD) (6) and military suicides (7, 8).

Post Traumatic Stress Disorder. Colville (6) reported that “an estimated 1,500 troops who served in Iraq have required treatment for PTSD” and that “800 personnel had been treated in the Priory” since the first inpatient was admitted in December 2003. The article quoted the Chair of the Gulf Veterans and Families Benevolent Association who stated that “Soldiers were being discharged before being given proper treatment” into a NHS system “which did not have the specialist psychiatrists necessary”. Wessely (9) has highlighted there is no widespread outbreak of PTSD within the British Armed forces, although within the media “there has certainly been an epidemic of stories about PTSD”. The results below will assist in clarifying the position, indicating that PTSD is a relatively uncommon cause for hospital admissions.

Deliberate Self-Harm (DSH), Suicides and Depression. Self-harming behaviour within the UK is the highest in Europe (10), resulting in one of the 5 main reasons for acute medical admissions (11), and leading to 150,000 hospital admissions (10). Suicide accounts for approximately 5,000 deaths in England (12) each year. The effect on family and close friends is devastating, and within the Army it is a highly sensitive issue, especially in recognition that 72% of under 25s who commit suicide have a past history of self-harming (12). Whilst the social contexts and causes of self-harming behaviour are complex (13), media reports suggests that DSH within the Army is due to trauma related factors, institutional bullying or racism (7).

Relatives will often state, rightly or wrongly, that the Army has failed in its duty of care (8). MH care remains the target of media comment without telling the whole story. Headlines such as “Desert Rats Depressed – Fury Over 30 Sick Soldiers Sent to Iraq” (1) resulted in an editorial stating “It’s a sorry state of affairs when an Army is so short of soldiers it has to send sick men to the front line.” (14). This article stated that 30 soldiers were “ordered to Iraq” despite being diagnosed as suffering from depression. This paper will detail the measures that MOD has introduced to ensure an effective MH service to provide troops with an appropriate, safe, clinical pathway, especially for those identified as being at high risk of self-harming.

Aim

The aim of this paper is to provide a detailed summary of military hospital admissions during a one-year period. This will include an exploration into areas such as demographic trends, differences in clinical opinion and how information gained is being utilised to improve the service and ensure appropriate, cost effective care is provided in the optimum environment.

Method

The sample group are entitled personnel admitted to a Priory hospital from 1 April 2005 to 31 March 2006. The information gained from this cross-sectional survey was provided by the 15 UK based DCMHs, where an experienced nurse is nominated as a Service Liaison Officer (SLO) and then has responsibility for supporting hospital admissions. SLOs complete a questionnaire that was designed to answer operational questions and identify trends such as which DCMH has admitted patients, the length of stay and diagnosis. Questionnaires were chosen as this method has been recognised as a useful data-collecting tool that can reach large samples spread over significant geographical areas (15, 16). A new questionnaire was designed for this purpose, as no “off the shelf” version was available and includes a section for significant events reporting. SPSS was used for the management and analysis of the quantitative data with the information exposed to descriptive and inferential statistical analysis.

Results

During the reporting period of the 1 April 2005 to 31 March 2006 there were 344 admissions.

Diagnosis. Table 1 presents the admissions during the study period for 14 diagnostic categories, further categorised as to whether the condition was the primary or single MH diagnosis or whether there were MH co-morbidities. A patient admitted with only one diagnosis, for instance depression, would be counted in both the primary diagnosis and single diagnosis columns for depression, whereas a patient presenting primarily with depression but also having PTSD and an alcohol related disorder would be entered in the primary diagnosis / depression cell, whilst the other two diagnoses are counted in the appropriate cells in the co-morbidities column.

The most common diagnosis resulting in 112 (33%) hospital admissions was depressive illness. 93 (27%) admissions were for alcohol related disorders, 46 (13%) for adjustment reactions, 29 (8%) with a psychotic illness and 23 (7%) with PTSD.

Gender. The Armed Forces population is 90% male. There were 282 (82%) male and 62 (18%) female admissions. Binomial, non parametric tests were applied to assess variances in diagnosis and gender, with results indicating statistically significant differences with 25% of admissions for depression being female ($p < .001$), and 96% of alcohol related disorders were male ($p < .001$) (Table 2).

Age, Service and Rank. The median age of admissions was 29 years old. The distribution of admissions were representative of

| Diagnosis | Length of stay | | | | Service | | | | Gender | | | Age | | |
|-----------------------|----------------|------|-------|------|-----------|------------|-----------|----------|-------------|-------------|----------|-----------|------|-------|
| | Total | Mean | Range | SD | RN/RM | Army | RAF | Other | Male | Female | P Value* | Mean | SD | Range |
| Depression | 112 | 36 | 1-174 | 33.3 | 34 | 42 | 32 | 4 | 83 (74%) | 29 (26%) | <.001 | 29 | 7.53 | 16-49 |
| Alcohol Related | 93 | 19 | 1-84 | 13.8 | 29 | 33 | 31 | | 89 (96%) | 4 (4%) | .049 | 31 | 8.47 | 19-53 |
| Adjustment Reaction | 46 | 21 | 2-106 | 20.4 | 10 | 28 | 8 | 0 | 38 (83%) | 8 (17%) | .077 | 30 | 7.55 | 17-45 |
| Psychotic Illness | 29 | 31 | 1-98 | 25.1 | 4 | 22 | 3 | 0 | 25 (86%) | 4 (14%) | .355 | 26 | 7.41 | 19-52 |
| PTSD | 23 | 50 | 4-98 | 27 | 1 | 18 | 4 | 0 | 21 (91%) | 2 (9%) | .592 | 30 | 8.73 | 19-49 |
| DSH | 9 | 13 | 2-50 | 9.2 | 0 | 8 | 1 | 0 | 8 (89%) | 1 (11%) | .613 | 24 | 8.08 | 17-41 |
| No Psych Diagnosis | 8 | 8 | 2-20 | 6 | 1 | 4 | 3 | 0 | 6 (75%) | 2 (25%) | <.001 | 28 | 8.73 | 18-45 |
| Substance Abuse | 6 | 13 | | | 2 | 4 | 0 | 0 | 5 (83%) | 1 (17%) | | 21 | 1.26 | 19-22 |
| Anxiety Related | 6 | 25 | | | 1 | 4 | 0 | 1 | 3 (50%) | 3 (50%) | | 28 | 4.45 | 21-33 |
| Personality Disorder | 4 | 25 | | | 0 | 2 | 2 | 0 | 2 (50%) | 2 (50%) | | 24 | | |
| PND | 2 | 26 | | | 0 | 2 | 0 | 0 | 0 | 2 (100%) | | 22 | | |
| Eating Disorders | 2 | 100 | | | 0 | 2 | 0 | 0 | 0 | 2 (100%) | | 22 | | |
| OCD | 2 | 9 | | | 1 | 1 | 0 | 0 | 0 | 2 (100%) | | 36 | | |
| Acute Stress Reaction | 2 | 21 | | | 0 | 2 | 0 | 0 | 2 (100%) | 0 | | 30 | | |
| TOTAL | 344 | | | | 83 | 172 | 84 | 5 | 282 | 62 | | 29 | | |

Table 2 Hospital stay, service, gender and age according to diagnosis

*Non Parametric Test - Binomial Empty cells indicate sample size too small to analyse

the Service population with 172 (50%) being Army personnel, 83 (24%) Royal Navy (RN) / Royal Marine (RM), 84 (24%) Royal Air Force (RAF) and 5 (2%) others (Table 2). Military Rank, expressed as the equivalent Army rank for all three services, indicated that of the 342 known results (including recruits), 165 (48%) were private soldiers, 84 (25%) were Lance Corporal / Corporals, 68 (20%) Sergeant to Warrant Officer Class One, 20 (6%) were Officers and 5 (2%) were civilian.

Length of Stay. From 344 patients, 24% (N=83) stayed in hospital for 10 days or less, 48% (N=167) were discharged within 20 days, 69% (N=237) within 30 days, 81% (N=280) within 40 days and 87% (N=300) within 50 days. The remaining 13% (N=44) received in-patient care for more than 50 days. Patients admitted from outside Great Britain stayed in hospital for the longest periods with Northern Ireland admissions averaging 42 days compared with 27 days for GB admissions. There were differences in how quickly different Priority hospitals discharged patients back to the local DCMH, with some departments waiting on average 37 days and others only 12 days.

Admissions Source. 300 (87%) patients were admitted from

within the UK and 44 (13%) from overseas. There were 11 Service personnel admitted from Iraq and they remained in hospital for an average of 11 days each. Of these 11 evacuations, 4 had adjustment disorders, 3 psychotic episodes, 2 depression, and one each with an alcohol related disorder and PTSD. There were no admissions from Afghanistan.

Results detail variances between different DCMHs' hospital admission rates. The measurement to assess these differences was to compare departments who serve similar populations at risk (PAR), and have matching referral rates. The most extreme difference highlighted one department admitting 10.5% (N=36) compared to a similar department that admitted 3.2% (N=11). There was no obvious reason for this disparity.

Risk Assessment & Significant Events Reporting. Risk assessment for depressive illness graded the probability of a patient self-harming. Information was provided on 111 patients, and indicated that 20% (N=22) were either low or no risk was detected. Of these 22 patients, 27% (N=6) were admitted out of normal working hours by a General Practitioner. 45% of SLO returns included significant events information which highlighted policy, administrative and

clinical problems. Examples are detailed in the following discussion.

Discussion

The most common cause for military MH health hospital admissions is for mood disorders, and this correlates with the highest cause for operational evacuation (17) and reflects day to day referrals to Military DCMHs. Depression and mood disorders are therefore the most significant MH problems in reducing the capability of the British Armed forces. PTSD accounted for 7% (N=23) of primary admissions and 3% (N=8) of patients with a single diagnosis.

| Condition | % |
|--|----|
| Neurotic, Stress related and Somatoform | 33 |
| Alcohol or drug misuse | 27 |
| Psychosocial and Environmental Problems | 13 |
| Depressive Episodes | 12 |
| Personality Disorders | 10 |
| Schizophrenia, Schizotypal and Delusional Disorders. | 3 |
| Organic Personality Change | 1 |
| Bipolar Affective Disorder | 1 |

Table 3: Distribution of primary psychiatric disorders from 309 Army personnel admitted to the Duchess of Kent's Psychiatric Hospital from 1 Jan 96 to 1 Jan 99.

Published data available from the last military psychiatric hospital, the Duchess of Kent's Psychiatric Hospital (DKPH) (18) indicates that rates of admission by diagnosis amongst Service personnel have altered (Table 3). Certain criteria such as alcohol related disorders have remained stable, accounting for approximately 27% of admissions, but depressive illness has risen from 12% to the current figure of 33%. Some colleagues believe that this is due to differences in recording patterns and the tendency of civilian psychiatrists to diagnose a condition as depression rather than an adjustment disorder. However, there are a number of ex-military Consultant Psychiatrists working within the Priory Hospitals who would identify the differences between these conditions so this may not be the case. What is commonly perceived by military MH clinicians, although the results in this paper may suggest otherwise, is that there has not been a significant change in the type of MH disorders within the Armed Forces population, despite the notable increase in operational commitments since 2003.

The number of admissions by Service is representative of the military population with approximately 50% being Army personnel. However, at the DKPH, the Army averaged 260 admissions per year (18) compared with 172 admissions in this report, reflecting a reduction of 34%. A contributing factor could be that Army DCMHs have been enhanced with extra staff, thus providing a better skill mix which is supported by a clear educational pathway that promotes community based treatment in preference to hospital care. Unfortunately, this is a dynamic medium, and under-manning, increased operational tempo, reduction in morale and mounting workloads could result in a reversal in this positive trend. The higher percentage of junior ranks admitted to hospital was expected as this group form the critical mass of Military personnel, with certain difficulties associated with the adaptation to military life.

There were notable differences attributable to gender. 10% of the Armed Forces are women but female represented 18% of hospital admissions and this represents a striking difference to DKPH admissions where the rate was 6.5%. It is acknowledged that civilian research has identified similar discrepancies, such as women significantly more likely to develop depression (19), or men being more than twice as prone to die from an alcohol related disorder (20), and these findings correlate to the statistically significant results within this study. However, the

exact reason for the overall greater proportion of female admissions is unclear. Whether women face greater stressors, are more isolated, are less effected by stigma, or are just more willing to seek support are all potential reasons, a valid basis for future military MH research, but outside the scope of this paper.

The Armed Forces strive to provide a safe and responsive MH service focused on community care. When a patient has required admission, performance data available from 2004/2005 indicate that on more than 95% of occasions, a bed was identified within four hours of referral. In this survey, the average length of stay was 21 days, with 48% of patients discharged within 3 weeks, and only 13% (N=44) staying in hospital for more than 50 days. These results suggest a service where GPs and MH clinicians do not have to take excessive risks, having access to a highly responsive service that provides brief assessment and treatment within a safe therapeutic environment. It is notable that the average length of stay is now less than previous admissions to DKPH.

From a clinical governance perspective, the importance of significant event reporting in highlighting problems is widely acknowledged (21). This non-punitive technique permits individuals to express their concerns in an independent way and can demonstrate the actions taken to resolve the issues (22). 45% of SLO returns included significant events information that resulted in a number of policy changes which have improved patient care, and may be a factor in reduced admission rates and for producing a better interface with the NHS. Reports have highlighted isolated instances of patients remaining in hospital for extended periods for non clinical reasons, a lack of communication between DCMHs and problems with appropriate transport, all of which have been addressed.

The results and significant events reporting are important factors in identifying ways of further improving military MH, and provide indication of the predisposing factors that precipitate the MH condition. There are biopsychosocial factors that influence the onset of MH disorders. Any type of change or new demand may cause stress and influence a person's ability to deal with the impact of challenging psychological and social life events associated with military life. How a person reacts to difficult experiences will depend on the individual's coping mechanisms, and it is these that will dictate how a person handles stress or everyday problems. MH difficulties are linked to the individuals social interaction, and their response to their environment, which for the military has special considerations as both peacetime and operational settings are often unique to this population. Identified stressors within the general population that lead to depression such as isolation (23), family stresses (24), relationship problems (25), childhood abuse (26), and the effects of alcohol (27) also affect service personnel. In addition, there are emotional issues particular to the military such as unresolved psychological adjustment to operationally linked traumatic events (28) or the MH problems exhibited in personnel wishing to leave the Armed Forces but facing extended periods of notice to leave (29).

Improving the lot of the unhappy soldier, whilst simultaneously promoting further community based care, is reliant on addressing the significant factor of military MH stigma (30), and requires the commitment of military managers. MH personnel have identified a number of potential developing themes for discontented Service personnel who live in a unique working environment where postings, often into a new setting, occur every 2 or 3 years, with the turbulence often compounded by an operational tour. During a military career, Service personnel report meeting a host of excellent senior staff who care for their troops and provide grass roots security and

friendship that can dissipate MH problems before they manifest themselves. However, poor leadership, excessive workload, and micro management, all of which are well recognised for their negative impact in reducing mood and increasing anxiety (31), can also affect performance in any walk of life. MH clinicians encounter distressed Service personnel who have / recall a line manager who fits this model but feel disempowered within an Armed Forces system of rank and annual reporting that may make detection of these shortfalls difficult. In the authors' experience, these stereotypes are uncommon, but where they exist the result can be an unhappy serviceman who may wish to leave the Services (if terms and condition permit), or face the long wait for either their line manager or themselves to be posted. The Armed Forces have a robust equal opportunity policy and utilise anonymous staff surveys that permit personnel to air their views, without fear of reprisal or disciplinary action, and this is one of many tools to identify such issues. However, these surveys tend to be an assessment at a strategic level, and fear of damaging a career has a reduced effect in airing problems at grass roots level. Local surveys and independent sensitivity meeting may improve matters, and whilst acknowledging the significant leadership training that is provided for troops at all levels, greater utilisation of methods used in civilian organisational management, such as the 360 degree assessments (32,33) could provide managers with insight into the impact of their management style, promote self awareness, and address some unit MH issues before they commence.

This paper also highlights an area that is both under-researched and not frequently attributed as a significant factor in MH admissions, that being the role of clinical competencies and opinion. Data available to this study indicates that there are significant differences regarding DCMH admission rates taking into account factors such as PAR and referral rates, and there is a possibility that the admission rates are directly linked to differing clinical assessment and management. The authors are not suggesting that lower admission rates equate to appropriate care, as it could be an indication of excessive risk-taking. However, individual results, although not published here by department, have been relayed back to each DCMH and provide clear visibility of differences, promoting communication and benchmarking. The results for the first 9 months of 2006/2007 show that there has been a 17% reduction in MH hospital admissions, and improved communication may be a contributing factor. Differing clinical opinion is also reflected in the fact that 26% (N=21) of depressed patients presented with either low or no risk of self-harm. These admissions on face value may appear to be contrary to the National Institute for Clinical Excellence (NICE) guidelines that advocate watchful waiting and community care (34). However, there are a number of prudent clinical reasons why this has occurred, and the short hospital stays indicate a service that provides military patients with a temporary safe haven whilst a more detailed assessment is obtained. To promote further awareness, stringent methods have been developed leading to better GP induction programmes, PHC educational seminars based on the latest evidence based research, and the establishment of MH web-pages that include NICE and WHO guidelines. A MH nursing peripatetic service to provide local evidence-based guidance regarding risk management has further enhanced this in some areas.

There were also notable differences in length of stay dependent on which of the 18 independent sector hospitals was caring for the patient, with the median range varying from 12 to 37 days. Obviously diagnostic criteria was a significant factor but the results also appear to be partly attributable to a learning process whereby SLOs needed time to develop their liaison skills, and the Priory consultants to become fully aware of military doctrine, and of the high level of easily accessible, multi-disciplinary community care available within military DCMHs. The

important aspect is that clear visibility of these differences, both across military DCMHs and the Priory executive, reinforced with a robust significant events reporting system has further improved the service and has led to recent reductions in the length of hospital based care. The authors' aim is to detail these developments within a future review for the year following this report.

Conclusion

This study is part of an extensive monitoring programme of MH hospital admissions that has led to significant policy changes in the way the MOD supports MH practice. Outside of the diagnostic criteria, it has been possible to identify differences in DCMH admission rates, which has enabled the RN, Army and RAF to have the opportunity to compare and contrast differences in interventions and approach. This has resulted in better induction programmes and educational support to both MH and PHC clinicians.

This aim of intensely monitoring the Priory contract is to produce a dynamic medium, where problematic trends are identified quickly. In response to this, the survey questionnaire was updated in April 06, and over a 12 month period will collect information regarding predisposing factors that are impacting on the admissions. These results, although at a very early stage, have reflected civilian studies that indicate multi-factorial causes with relationship difficulties featuring in over 50% of admissions. These results will be the subject of a separate paper.

The Armed Forces need an effective MH service that is accessible, readily available, non-stigmatised and which positively advocates a duty of care. The results from this study highlight the importance of military MH undertaking further studies regarding low mood / depression. The first author is completing a doctoral research study consisting of an exploration and critical analysis of relevant predisposing factors with the aim of producing a theoretical model to support local unit interventions. As a result, the Armed Forces may then be in a better position to maximise the use of resources, preferably before the Serviceman / woman's problems are exacerbated to the extent that any MH assessment is required.

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Correction

Figure 1 in Tong JL, Taylor A, House J, Smith JE. Assessing airway patency and breathing in NBC category 4R - the RG method. *JR Army Med Corps* 2006; **152**(3): 139-42 was reproduced incorrectly. The arrow in the top right of the figure was the wrong way round. The correct figure is reproduced below.

