Rheumatology in Aberdeen 1945 -2024

Introduction

The practice of Rheumatology in the early 20th century relied upon physical therapies and a limited number of non-specific drug therapies, with Aspirin, prescribed in high dose being a mainstay of therapy. These were administered in the setting of both hospital and spa facilities for those with the most serious and crippling conditions. Over the subsequent century, the therapeutic emphasis shifted from these unpromising origins through the era of disease modifying, if ill targeted and potentially toxic, drugs to a 21st century practice based on effective targeted therapies developed from a sophisticated understanding of cutting-edge science. The specialty likewise evolved to become a dynamic, mainstream subspecialty of general medicine, dealing with inflammatory joint disease, osteoarthritis, connective tissue disease, vasculitis, metabolic bone disease and soft tissue disorders. The aim, and increasingly the reality, was to prevent disability and allow individuals to be supported in their lives via out of hospital models of care that better reflected their needs.

Of the early pioneers of our specialty, special note can be given to Prof Jacques Forestier, who combined academic practice in Paris with spa-based practice in Aix en Provence. Believing in the idea that pharmacological intervention could potentially improve outcomes for rheumatoid arthritis, he was the first to describe the beneficial effects of gold salts, a mainstay of treatment for several decades thereafter. By 1937 the need to directly address the impact of rheumatic disease was identified in Aberdeen by Prof Stanley Davidson.

The Development of Rheumatological Services in Aberdeen 1937 to 2024.

1937-1945

Stanley Davidson, Regius professor of medicine in Aberdeen in 1937, recognized that the rheumatic diseases were a major cause of both ill health and work incapacity and set about trying to improve clinical care. He asked the local authority if the Justice Mill Lane Baths in central Aberdeen which were under construction could be modified to meet some of the needs of the patients by providing thermal baths and clinic space. This suggestion, along with locating beds at Woolmanhill, was given consideration but nothing came of this, possibly in part due to financial constraints and to the outbreak of the 2nd WW in 1939.

It was left to Prof R S Aitken who replaced Stanley Davidson on the latter's departure to Edinburgh to reignite the interest and assess the need for appropriate facilities. In 1945 he tasked Dr Logie S Bain, an Aberdeen graduate, to spearhead the development.

1945-1960

It was not until the end of the war in 1945 that a 20 bedded in-patient facility based at Stracathro Hospital (35 miles south of Aberdeen) along with 6 beds in the professorial unit at Woodend Hospital

was established under the supervision of Dr Logie Bain. A year later, in 1946, outpatients were accommodated in the orthopaedic clinic at Foresterhill.

The question of using the up-town baths at Justice Mill Lane again arose and thanks to the generous bequest from Miss Margaret Cran along with a stipulated time scale (use it or lose it) the Justice Mill Lane facility was modified to provide some outpatient clinic needs as well as some spa-type facilities. This was achieved in 1948. With this development, Dr Hubert Balch, an Aberdeen graduate who had been working at Stracathro, was appointed to Aberdeen to assist Logie Bain.

It was not until 1960 that all in-patient services, now based on 42 beds, were transferred to Ward 1, City Hospital which also had a small dedicated physiotherapy department. A proportion of out patients was seen at this locus but most outpatients were seen at Woolmanhill Hospital where the main physiotherapy department, associated with a newly created School of Physiotherapy (1962), was located. Interestingly at this stage all physiotherapy referrals had to be vetted by the Department of Physical Medicine and Rheumatology. The department was assisted by Dr J M R Wetherly, a local GP who worked part time as a medical assistant.

Although the department was called The Department of Physical Medicine and Rheumatology, the emphasis was still orientated more towards Physical Medicine.

Rheumatological practice 1960 - 1970

By the 1960s, the use of Disease Modifying Anti Rheumatic Drugs (DMARDs) such as gold injections and later antimalarials and sulfasalazine had become standard practice in Rheumatology. And, of course, synthetic steroids had also become available by the 1950s but the early exciting promise of these had to be tempered with the side effect profile. In spite of these developments, limitations of available therapies and the ways in which they were used was reflected in the provision of Spa type health facilities and the continued need for prolonged hospital stays.

Although there were therapeutic limitations, Logie Bain and his colleagues were certainly familiar with multidisciplinary team meetings. These were held each week and were certainly part of routine practice in the late 1960s if not earlier. There was also interdisciplinary collaboration with regular ward visits from the orthopaedic service (Mr John Gibson) and ophthalmology consultations for those on antimalarial therapy (Mr P K Ray).

There was in addition an emphasis on providing in-patient respite care and appreciating the value of having holiday facilities at Nairn (Lovat Lodge) and Strachan for patients and their families. Much of the credit for such facilities rests with Logie Bain who had founded a local branch of what became Arthritis Care. The local branch of the latter organisation was very supportive to the Rheumatology department throughout the years. They provided the finances for a polarizing microscope for the diagnosis of gout, a hydrotherapy pool and a teaching room.

The nature of the department's work meant that it continued to be called The Department of Physical Medicine and Rheumatology up until the early 1970s.

At this stage there was no issue with long waiting times for inpatient or outpatient investigation or treatment and there was a certain amount of pride in having outpatient letters dictated to the secretary who recorded these in shorthand and had the letters ready for signing at the end of the clinic. Such secretarial practices persisted into the 1980s.

1970s

In the 1970s, there was an increasing use of DMARDs and a burgeoning selection of anti inflammatories along with a decline in the provision of spa-type services such that attempts were made to re-designate the department to that of Rheumatology. This was important because training of Senior Registrars in the 70s tended to provide accreditation singly in Rheumatology or in Rehabilitation. With the retention of the name Physical Medicine there was perhaps the assumption that new appointees would take on the role of General Rehabilitation for which they might not have been trained.

Logie Bain and Hubert Balch retired in 1979 and there was agreement that the department would be that of Rheumatology at which time two replacement consultants were appointed-Dr J A Norris Rennie and Dr Clifford J Eastmond. Norris Rennie, who took up his post in January 1979, was an Aberdeen graduate who had undergone postgraduate training at the Centre for Rheumatic Disease in Glasgow while Cliff Eastmond, an Edinburgh graduate, had undergone postgraduate training in Leeds and Liverpool. He took up his post in June 1979.

The Rheumatology in-patient service with 42 beds remained at the City Hospital where some outpatients were seen though the majority of outpatients attended Woolmanhill. No longer did all patients referred to the Physiotherapy department have to be assessed by clinicians working in the Rheumatology department.

1979 -1994

This was a period which favoured the more widespread use of Disease Modifying Antirheumatic Drugs (DMARDs) with their introduction at an earlier stage of the disease process. This in turn required a major reorganization of the drug monitoring process to cope with the numbers; without considerable cooperation from GP colleagues the department would have struggled.

Sub-specialities emerged with Cliff Eastmond having a particular interest in the seronegative spondyloarthropathies while Norris Rennie established a Paediatric Rheumatology service along with Dr Ian Auchterlonie a paediatrician at RACH. Norris Rennie went on to develop and establish the Adolescent Transition Service. Multi-disciplinary team meetings were continued and co-operation with orthopaedic surgeons was extended to include not only ward visits by Peter H Gibson, William M Ledingham and R Buchan Chesney but combined clinics with the former two surgeons.

In 1986 an additional consultant post, part funded by the then Arthritis Research Council was created allowing the appointment of Dr David M Reid, an Aberdeen graduate who received post graduate training in Edinburgh. His remit was to organize teaching and initiate research. David's particular interest was osteoporosis. (see separate section on osteoporosis.) His appointment stimulated an expansion of academic rheumatology. He was enormously successful in achieving all these aims, becoming an international figure in the study of and management of patients with osteoporosis. He was President of the Scottish Society of Rheumatology (2008-2010) obtained a personal chair in 1999 and was awarded an MBE in 2021 for services to Osteoporosis.

With the creation of a department which included a broad clinical base, a dedicated teaching programme and an evolving academic / research reputation the department was able to apply for and receive accreditation to train Senior Registrars in the late 1980s.

Around the same time the benefit accruing from changes in practice (early use of DMARDs including the more widespread use of methotrexate) and the divorce from Physical Medicine resulted in a decrease in hospital admissions such that bed numbers at the City Hospital saw a reduction to 33. In addition, there was an expansion of outpatient services to include Rheumatology clinics in Orkney and Shetland.

1994 - 2009

By the early 90s, as the specialty became increasingly aligned with other medical specialties, it was becoming clear that the Rheumatology department was becoming isolated from investigational facilities at the City Hospital. Several units were transferred to Aberdeen Royal Infirmary (ARI) at Foresterhill. Various options for Rheumatology were discussed but the preference was to relocate to ARI.

The unit moved to Foresterhill in February 1995 initially to ward 8 which was seen as temporary accommodation and was situated on the ground floor of the surgical block. The bed numbers were further reduced to 23.

Restructuring of consultant sessions allowed the appointment of a further NHS consultant in April 1996 with the appointment of Dr Alan G MacDonald. Dr MacDonald was a Glasgow Graduate who had done his rheumatology training in Aberdeen, Glasgow and Liverpool. He was a valued clinical colleague, a listener and skillful negotiator who went on to become President of the Scottish Society for Rheumatology (2013-2014) and Chair of the Scottish Medicines Consortium (2017-2020). Alan retired from regular clinical practice in 2022.

Dr Alison J Black who had also trained in Rheumatology and Osteoporosis in Aberdeen, Glasgow and Liverpool was appointed in 1996 to the department of rheumatology as a clinical assistant and as a research assistant within the osteoporosis unit. She became a consultant in 2009.

Outpatients continued to be seen at Woolmanhill, Orkney and Shetland and there was an expansion of the outreach service to include Elgin in 1997.

In 1999, the department relocated to Ward 3 on the upper floor at the East End of ARI with a further reduction in bed numbers to 18 but the layout of the accommodation allowed flexibility in relation to gender distribution.

By the beginning of the 21st century, the potential benefits of biological therapies were becoming evident and the issue that had to be addressed was how to administer and monitor such treatment programmes. Agreement was reached whereby the department further reduced its bed numbers to 13, thereby releasing space which became a dedicated day case area to address the changes in rheumatological practice. Unfortunately, this dedicated space was often used to accommodate overflow patients from other wards which disrupted the rheumatology service.

Dr Cliff Eastmond who had combined clinical practice with a senior role in the management structure retired from the NHS in 2007 with Dr Hazem MMA Youssef joining the department that same year.

Hazem Youssef graduated from Cairo and undertook postgraduate training in Edinburgh. He assumed continuing responsibility for paediatric rheumatology and the adolescent transition service while continuing and developing his interest in connective tissue diseases. He also introduced and developed joint ultrasound services in the NorthEast. At time of writing, Hazem is President Elect of the Scottish Society for Rheumatology.

Dr Norris Rennie retired from medical practice in 2009 at which stage Dr Alison Black was appointed consultant

2009-2024

As the biologics' era reached maturity, the specialty of Rheumatology entered a 'golden age' and the prospects of achieving excellent outcomes even for those with the most severe rheumatic disease became reality. This brought with it new challenges including cost, potential new toxicities and the need to provide care in new and innovative ways.

As such, the department took the strategic decision to focus its service entirely on ambulatory (outpatient and day case) services and gave up its claim to dedicated in-patient beds, seeking to re-invest the savings in a more patient-focused way. The move out of Woolmanhill Hospital to a repurposed area on the ground floor of Ashgrove House was finally completed in May 2014 which allowed gap co-location of more modern outpatient, day case and AHP areas as well as osteoporosis scanning facilities which were readily accessible to our patient group.

This period also saw an expansion of the role of the team of specialist nurses and allied health professionals, in part to ensure that biologic drugs could be administered and monitored effectively and safely but also made use of specific expertise for example in the management of ankylosing spondylitis in a designated clinic run by senior physiotherapist, Lesley Davidson. In 2017, the department secured funding for Clinical Psychologist sessions, though inevitably the demand well exceeded supply.

In terms of consultant staffing, the department benefitted from the appointment of a number of new colleagues, some of whom had trained locally and others who brought expertise from other centres. The former category included Drs Paula Dospinescu and Mariana Philibos and clinical academics, Rosemary Hollick and Neil Basu. The latter included Drs Pradeep Kumar (Tayside), Lynne Shand (London), Ejaz Pathan (London), Nicola Alcorn (Glasgow) and Lyndsey Robertson (Plymouth). Whilst inevitably a number of these colleagues moved on for personal or professional reasons, the range of expertise and interests that such colleagues brought ensured that the department retained its dynamism and focus on high quality patient care.

As part of the commitment to the northern islands, the department pioneered a 'telemedicine' service to Orkney, from 2010-17, utilising the experience of their local senior physiotherapist (Lesley Platford), as part of what would later be classed as a 'triadic hub spokes model'. This experience proved of value during the coronavirus pandemic of 2020-21, when government mandated travel and other care restrictions could have left vulnerable patients in rural areas without any access to essential specialist care. This period was of course a huge challenge to all those suffering serious rheumatic disease. In addition to contributing additional sessions to acute medicine and by giving advice on the use of biologics in Covid-related illness, the department of Rheumatology remained dedicated to offering the best care possible in the face of the severe restrictions placed on healthcare providers.

Such restrictions as a consequence of Covid resulted in the creation of services whereby healthcare professionals and patients could access information from a doctor by emailing a dedicated mailbox. There was also the innovation of using Patient Initiated Follow Up (PIFU) in 2021 whereby the patient could decide on their own follow up arrangements.

Academic Rheumatology

1 Osteoporosis

Dr David Reid's interest in osteoporosis began while undertaking research as a clinical lecturer at the University of Edinburgh in the early 1980s. The condition was then virtually unknown to the general population when curvature of the spine, sometimes called Dowager's Hump, was considered a natural part of the ageing process. He became passionate about the unmet need to diagnose and treat the condition in the wider population as well as providing both information and education.

He moved back to Aberdeen and joined the rheumatology department as a consultant in 1986. Recognising that there were no facilities for diagnosing and managing osteoporosis in the north of Scotland he initially gathered together a group of enthusiastic lay women and led a fund-raising campaign, the Grampian Bone Scanner appeal, which successfully raised over £100,000 to purchase two bone Densitometry (DXA) scanners. They were initially installed in a port-a-cabin at the City Hospital and became the first DXA scanners for routine clinical use for NHS patients in Scotland. To help support the funding of the services in 1991 he set up with two non-medical colleagues, the Grampian Osteoporosis Trust, a charitable company which raised over £3.5 million until it was wound up in 2023. The Trust funded two new DXA scanners for clinical and research purposes in a pavilion at Woolmanhill Hospital when the rheumatology department as a whole was required to vacate their City Hospital base. With the help of a local fundraising campaign the Trust funded a third NHS service scanner which was installed in Elgin for the people of Moray.

Research had become an integral part of the osteoporosis facilities and DXA scanners and a number of research nurses (at one time numbering 8) was recruited. Their day-to-day research work was overseen by Dr Alison Black who, as previously stated, became a Clinical Research Fellow in the unit after her move from Liverpool to Aberdeen. As part of her role Dr Black dedicated herself to reporting at the DXA scanners, a service she continues to provide in 2024.

Making use of two of the team of research nurses the Grampian Osteoporosis Trust also set up a direct osteoporosis helpline, the first in Scotland, for the general public. The specialist osteoporosis nurses provided advice on both prevention and management of the disease – all initially funded through the Trust.

Along with Norris Rennie, David Reid held rheumatology clinics in both Orkney and Shetland; aware that there was no local provision for osteoporosis scanning, David Reid released funds from the Grampian Osteoporosis Trust in 2013 for the purchase of a mobile DXA scanner to be transported by ferry to the islands 2-3 times per year. This innovation and intervention meant that patients with osteoporosis or at risk of the condition did not need to travel to the mainland for diagnosis. The availability of this service enabled the planning of a full Health Service Research programme to assess the value and effectiveness of such a Remote and Rural programme. This was supervised by a senior trainee in the department, Dr Rosemary Hollick, who was awarded a PhD on the topic of Evaluating Mobile (DXA) Service Delivery in Remote and Rural Areas in the UK. Rosemary was subsequently appointed to a post as Clinical Senior Lecturer in Rheumatology in 2017.

2. Osteoporosis Research

The fortuitous appointment of Stuart Ralston to a Clinical Senior Lecturer position at the University of Aberdeen in 1989 laid the foundations for a major collaboration between him and David Reid into the Genetics of Osteoporosis. Stuart, who was also a general physician and rheumatologist, had set up what became a world -leading molecular laboratory at the Medical School specialising in the genetics of metabolic bone disease, particularly osteoporosis and Paget's Disease of Bone. His laboratory success in Aberdeen led to him becoming Professor of Medicine and Metabolic Bone Disease at the University in 1996, a position he held until he took up the post of Professor of Rheumatology in Edinburgh in 2005.

The laboratory research team led by Stuart and the Clinical Research Unit led by David worked together to identify some of the multiple genetic factors which led to the development of osteoporosis and fractures. The team was the first to identify the key role of a collagen gene polymorphism (COL1A1) in the evolution of the condition and went on to identify a number of other clinical and genetic markers which helped identify some of the many factors which lead to the evolution of the disease.

These discoveries were tested in the random population databases of women who had been "recruited" to have a DXA scan and who had completed associated clinical research questionnaires which had been gathered by David Reid and his team since the late 1980s. The largest of these databases, the Aberdeen Prospective Osteoporosis Screening Study of over 5000 women aged 45-54, formed a background to test many of the nutritional factors associated with osteoporosis. These studies were led by two nutritionists who went on to become leading experts in the nutrition of osteoporosis, Sue Lanham-New (now Professor of Nutrition at the University of Surrey) and Helen Macdonald (now Emeritus Professor, University of Aberdeen).

3. Epidemiology Research The availability of these normative databases may have helped the University of Aberdeen to attract the world-renowned epidemiologist Gary Macfarlane (and his team) to move from the University of Manchester to take up the post of Chair of Epidemiology (Clinical) in 2005. Gary now leads a clinical research programme focussing on Rheumatic and Musculoskeletal Diseases (RMD) and undertakes research on mechanisms of disease onset and outcome (observational epidemiology), identifying effective management for RMDs (clinical trials and evidence synthesis), and designing optimal delivery of care (health services research). He and his research team have particular expertise in common, complex conditions (including musculoskeletal pain and fatigue, fibromyalgia, and early osteoarthritis), inflammatory conditions, and rare diseases. As of 2024, the programme also hosts several disease and drug registries: the British Society of Rheumatology Biologics Registers in Ankylosing Spondylitis (BSRBR-AS) and Psoriatic Arthritis (BSR-PsA).
Gary's team has been enhanced over the years by association with a number of rheumatology trainees, most prominently the aforementioned Rosemary Hollick and Neil Basu whose internationally recognised work on fatigue in rheumatic diseases has led to his move to the University of Glasgow where he is now Professor of Musculoskeletal Medicine & Vasculitis.

4. **Molecular Biology of Bone and Cartilage**
Stuart Ralston's laboratory team at the University had been working on basic bone and cartilage biology for some years before Professor Cosimo de Bari, a clinically active rheumatologist and a translational scientist with expertise in musculoskeletal regenerative medicine and arthritis pathophysiology, was appointed as Professor of Translational Medicine at the University of Aberdeen in 2007. Along with the scientists already in the laboratory and new team members he developed a new focus on cell-based therapies for cartilage repair in osteoarthritis. Professor De Bari took up the post of Professor of Rheumatology at the University of Edinburgh in November 2024.

Cosimo's excellent publication record along with those of Gary Macfarlane's Epidemiology Research Team and David Reid's Clinical Research Team led to the Aberdeen Rheumatology Group being awarded a prestigious EULAR (European Alliance of Associations for Rheumatology) Centre of Excellence award for 5 years (2015-2020).This award reflected the close collaboration between the clinical and academic teams (the latter now branded as Aberdeen Centre for Arthritis and Musculoskeletal Health) and was renewed for the 5 years period, 2021-2026.

Conclusion

As the health service takes early faltering steps in the long process of recovering from the events of the recent pandemic, there is a clear risk that many of the gains in patient care, so painstakingly achieved over decades, could be lost. The current and future leaders of rheumatology services in north-east Scotland will need to demonstrate equal commitment, energy and imagination to ensure that Aberdeen remains at the forefront of academic and clinical Rheumatology.

Alan G MacDonald, David M Reid, JA Norris Rennie

Apart from the recollection of the authors the under noted were reference sources:

Steven M Rheumatology in Scotland - The Next Generation. Scottish Medical Journal 2010:55(1) 38-42
Obituary of Dr Logie Samuel Bain, British Journal of Rheumatology 1988:27:36
Epidemic Diseases in Aberdeen and the History of the City Hospital, Ian A Porter and Michael J Williams, Aberdeen History of Medicine Publications No 2, 2001
Fiona Musk, NHS Grampian Archivist (personal communications)