National Clinical Strategy for Orthopaedics (NCSOS) Report 2c - Guidelines and Recommendations Hand and Wrist Surgery

1. Executive Summary

Hand & Wrist Surgery is one of the higher volume Orthopaedic subspecialties, and comparable to hip and knee in terms of referral and procedure demand.

There are limited existing national and specialist society guidelines and there is an opportunity for more to be developed. This document provides recommendations on how these can be developed into integrated clinical pathways and how further pathways can be developed where gaps and need exist; combining these recommendations with the other Orthopaedic subspecialties will lead to transformative pathway re-design. It is complemented by the NCSOS report 2a – *"General Strategic Pathway Recommendations"* and will feed into the NCSOS final report 3 *"The National Blueprint for Orthopaedic Surgical Delivery".*

A significant number of the action points and recommendations in this document require HB level intervention and accountability and are well within limits of feasibility. Other actions need central intervention and can only be led clinically, through the development of a National Hand and Wrist Clinical Reference Group (NHWCRG) working within the governance structure of a fully resourced Welsh Orthopaedic Network (W.O.N) with authority to implement and deliver change at scale. The NHWCRG and W.O.N will be discussed further in NCSOS report 3.

The whole Hand & Wrist pathway is considered within this document. It requires transformative change in parts to deliver a seamless journey for the patient.

Secondary and tertiary infrastructure requires urgent attention. Achieving estates standards in all HBs for OPD services such as access to hand therapists and splinting staffing and rooms, and radiology support is the bare minimum. We should be striving for far more for our patients and developing gold standard and innovative pathways at scale on a national level via the NHWCRG and W.O.N.

Allied health staff, in particular hand therapists are key to this. This staffing group should be integrated within all stages of the pathway from primary care through triage to secondary and tertiary care clinics.

The majority of surgical intervention for H&W can be provided within a day case setting. Most procedures are high volume, daycase, regional or local anaesthesia, and are well suited to a HVLC approach, albeit through a network of daycase units, to ensure local care where possible. Some procedures e.g. joint replacement, are low volume and best suited to an MDT and network approach. This will be discussed further in NCSOS report 3 following a full consultant workforce and demand capacity review.

2. Background

The delivery of orthopaedics has been challenging in Wales for decades. The national GiRFT (Getting it Right First Time) review of services was commissioned in 2014 by Welsh Government ahead of the formation of the National Planned Care Programme and the Welsh Orthopaedics Board. However, the recommendations made by GiRFT and supported by clinicians to provide dedicated elective Orthopaedic ring fenced beds through the development of cold elective sites within each Health Board, were not implemented. As a result, services continued to be impacted by regular and frequent unscheduled care pressures.

The Pandemic has exposed this failing system and resultant capacity shortfalls within orthopaedics to the fullest. In September 2021, Welsh Government (WG) commissioned the National Clinical Strategy project for Elective Orthopaedics Surgery (NCSOS) with the primary objective of developing a surgically focused redesign and blueprint for the future state of elective Orthopaedic surgery delivery in Wales, unconstrained by Health Board (HB) boundaries. Alongside this, GiRFT were commissioned to undertake a parallel review in co-ordination with the NCSOS project to provide recommendations for recovery and redesign of services in the short term. It should be noted that Paediatric Orthopaedics and Spinal Surgery services are being considered separately as part of the WHSSC programme of commissioning.

At the outset of the NCSOS project, it was clear that its scope needed to include review of the whole pathways of care feeding into the surgical services. Reviewing surgical delivery alone would not enable the comprehensive transformation required to provide the scale of change needed to deliver high quality and sustainable Orthopaedic care for the population of Wales.

The NCSOS team have therefore developed a suite of reports to cover the work that has been undertaken within the project:

NCSOS Report 1 – *"Orthopaedic Recovery, Urgent - For Immediate Action"*. As part of the project processes, many critical and major risks were identified that needed immediate response, outside of the scope of the strategic role of the NCSOS. At the request of clinicians across Wales, the NCSOS team agreed to provide this interim auxiliary report.

NCSOS Report 3 – *"The National Blueprint for Orthopaedic Surgical Delivery in Wales"* will be published and submitted to WG and Health Board Executive teams in April 2022. This will provide a detailed set of recommendations required to redesign orthopaedic surgery based on clinical pathways and networks, consultant workforce profile and a comprehensive demand and capacity review. It will articulate the required capacity needed to remove the surgical backlog and provide

sustainable services at subspecialty and procedure/ pathway specific level. It will provide options of delivery to inform national capacity planning and investment decision-making.

<u>NCSOS Report 2a-f</u> – *"…Pathway recommendations".* These reports comprise of general recommendations (2a) that relate to the Orthopaedic system as a whole while sub reports (2b-f) will focus on specific sub-speciality requirements. These reports will feed into NCSOS report 3 and form the basis of collaborative national pathway development in conjunction with other professional groups. The aim is to create a standardised pathway framework through which care is provided across Wales, which has the ability to adapt for necessary local and regional considerations.

3. Hand and Wrist Surgery - Methodology

This document has been developed in conjunction with the national sub-specialty Hand and Wrist clinical reference group (HWCRG) and is based on local, regional and national considerations, including WG strategy where relevant, and sub-specialty guidelines on best practice. E.g. All Wales Carpal Tunnel pathway (Annex1), British Society Surgery of the Hand (BSSH) guidelines (in development).

Section 3 outlines the key recommendations from the H&W clinical reference group.

Section 4 reviews the patient pathway which has been broken down into the ten component parts outlined below, in order to standardise the methodology for all of the orthopaedic sub-specialties.

- Primary Care
- Initial Triage
- Pre-Hospital intervention
- OPD review
- Diagnostics
- Return OPD
- Listing/ Waiting for Surgery
- Pre-Assessment
- Surgery
- Post-operative

The document details an integrated Hand and Wrist pathway, however specific consideration of a complex hand and wrist arthroplasty pathway will be considered following a further sub-specialist meeting, as well as condition specific guidance currently undergoing a period of consultation by members of BSSH in conjunction with GIRFT which will be incorporated and referenced once available.

Section 5 details the NHS England (NHSE) commissioning classifications of Specialised and Non-specialised hand and wrist surgical procedures. The H&W CRG has reviewed these distinctions and their clinical applicability for NHSW. The CRG recommended output categories will underpin the data analysis phase feeding into NCSOS report 3.

Section 6 provides an initial workforce review of H&W consultant level provision in Wales, matched against the specialised and non-specialised procedure demands nationwide, to allow a consultant sustainability review on horizon scanning.

4. Identified National pathway issues for Hand & Wrist

4.1 Primary care

4.1.1 Expectation of management prior to referral

There is a paucity of standardised referral and treatment guidance for clinicians within primary care leading to poor quality referrals. The recently developed all Wales Carpal Tunnel syndrome pathway is a positive step to improve referral and treatment quality. There is a need to develop further treatment and referral guidance for other common hand conditions e.g. adult trigger finger, ganglions, Dupuytren's. BSSH and GIRFT are currently developing this guidance and some HB's (C&V) have already established their own guidance via an online platform. It is recommended that this condition specific guidance is provided via an online platform to be adopted on an All-Wales level once established.

It is recommended that therapists providing non-operative treatment within a pathway (CMATS/MCAS clinicians or hand therapists) be provided with appropriate training, and practice according to an integrated treatment pathway with adherence to condition specific guidance. These treatment pathways should be at the direction of secondary care hand and wrist sub-specialists, agreed nationally and implemented by local HB's or regional networks within a primary or secondary care setting as appropriate.

Action 1: Existing BSSH & GIRFT guidance, including non-operative management guidance to be implemented nationally within primary care.

Action 2: Trial of non-operative management must have been considered prior to referral, utilising hand therapists and APP's with hand and wrist training co-ordinated by NHWCRG and over-arching national orthopaedic network.

Action 3: Condition specific guidance should be developed in conjunction with BSSH, agreed nationally and embedded in all local and regional MSK pathways.

4.2 Initial triage

An MDT triage system for the sub-specialty of hand and wrist should include any appropriately trained therapists involved with the provision of non-operative management and initiation of condition specific treatment pathways alongside sub-

specialist hand and wrist consultants. This will improve training and referral quality within primary care and improve patient experience at all stages of the pathway.

A national workforce review and training programme is required to ensure national equitable access to non-operative management by appropriately trained therapists. Training and clinical experience by way of secondment (or formal placements) and student and junior hand therapist placements must be provided in centres with pre-existing integrated pathways of care with sub-specialist consultant involvement, so that the hand therapist workforce of the future can be nurtured and existing clinicians upskilled to provide this aspect of treatment pathways.

All patients accepted to secondary care should be placed on sub-specialty hand and wrist registry where appropriate.

Action 4: All HBs should develop an MDT triage with sub-specialty hand and wrist consultants, hand therapist and APP with hand and wrist training under supervision of hand and wrist sub-specialty consultant at early stage of pathway.

4.3 Pre-hospital intervention

A workforce review informed by BSSH standards relating to the number of hand therapists per head of population should be undertaken to address deficiencies identified which currently prevent appropriate non-operative treatment according to agreed best practice. Existing CMATS/MCAS clinicians may provide the bridging solution within an integrated pathway as part of a regional network with SBU.

Action 5: A gap analysis workforce review of existing hand therapist provision, standards of provision of hand therapists according to BSSH criteria must be undertaken.

4.4 Outpatient Review

All Hand & Wrist outpatient clinics must be resourced with dedicated, appropriately trained nurses and plaster technicians to provide wound and plaster care management.

It is recognised that the sub-specialty of hand and wrist is reliant on MDT input and minimum standards for the constituent parts of the MDT need to be agreed at a

national level via sub-speciality CRG, then implemented and funded locally by HB's or within a regional network. This would include provision of hand therapists, specialist APP with an interest in hand and wrist, orthotics provision and same day diagnostics.

Action 6: All OPD should be multi-disciplinary to include nationally agreed standardised constituents agreed by NHWCRG e.g. hand therapy, orthotics, diagnostic provision.

Action 7: Joint consultant clinics should be employed wherever possible to promote regional hand and wrist network MDT.

4.5 Diagnostics

The recently published all Wales Carpal Tunnel pathway will mandate a standardised approach to requesting NCS and EMG and we recommend that this approach be replicated for other specific clinical conditions as appropriate.

All HBs must be able to provide an image guided injection service to reduce reliance on utilisation of vital operative capacity. A workforce review of radiology is required, together with provision of minimum service level agreements within each HB/regional network, to ensure equitable access for all patients to MSK imaging and diagnostic and therapeutic interventions. Where short term capacity cannot be provided, we recommend that HB's/regional networks seek solutions with independent providers to ensure immediate equitable provision.

Action 8: Standardised approach to requesting NCS and EMG in line with all Wales CTS pathway.

4.6 Return OPD

We recommend that the majority of follow up appointments are virtual where clinically appropriate and that sub-specialty follow up protocols are agreed by the NHWCRG. The majority of follow-ups can be avoided with implementation of MDT working recommended in this document. However, monitoring of performance metrics for virtual clinics must be rolled out nationally. This can be co-ordinated by the existing Outpatient Transformation programme.

Initial post-operative review should be standardised according to clinical condition or procedure and undertaken by specialist hand therapist or suitable AHP with an

interest in hand and wrist surgery, working within an MDT setting with availability to access immediate consultant review.

The long-term follow-up of hand and wrist joint replacement should be undertaken virtually utilising a digital platform with automatic agreed imaging surveillance and automatic collection of PROMS and PREMS.

Action 9: Virtual long term FUP where applicable with automated imaging and PROMS collection.

4.7 Listing/ Waiting for Surgery

The daycase nature of hand and wrist surgery has meant an earlier return to pre-pandemic activity and a more limited effect from historical under-resourcing. Nevertheless, waiting times for hand surgery remain above agreed national RTT targets and patients waiting treatment should be able to access clinical advice in the event of worsening symptoms and their position on the waiting list should be transparently communicated.

All patients should have PROMS/PREMS at all stages of the treatment pathway and be placed on the H&W registry.

Clinical prioritisation tool for hand and wrist should be developed as per NCSOS Report 2a generic recommendations.

Action 10: Nationally commissioned sub-specialty hand and wrist prioritisation tool developed by NHWCRG and applied at time of listing to allow appropriate clinical prioritisation of case-mix.

4.8 Pre-assessment

We recommend the development of specific hand and wrist surgery pre-assessment processes, an example of which is currently undertaken within Cardiff and Vale.

These processes should ensure safe regional anaesthesia but also identify patients who may require GA and ensure appropriate provision is made to avoid on the day cancellation of surgery due to lack of an interdependency e.g. surgery within a day

surgery facility without access to appropriate post-op recovery areas or inpatient bed.

Action 11: Development of specific hand and wrist surgery PAC processes to identify which patients can be appropriately managed in a daycase unit or inpatient stay who may require GA to increase efficiency and avoid on the day cancellation of surgery.

4.9 Surgery

4.9.1 Future state

It is recognised that hand surgery can be delivered almost exclusively via appropriately resourced day case units, with a small proportion of patients who require an obligatory inpatient stay and access to laminar flow theatres.

It is recommended that guidance on the exact type of theatre facility required for each basket of cases (currently being developed by BSSH) be followed. This will allow streaming of hand and wrist cases to theatre facilities to maximise efficiency and also release laminar flow theatres to other specialties. We further recommend that HB's consider developing "one stop shops" for the provision of treatment of defined HVLC clinical conditions such as CTS and trigger finger. It is expected that the BSSH consensus statement will also provide guidance on the use of "minor procedure" facilities for certain cases; we would recommend that these be located in primary care wherever possible. However, such facilities must be "fit for purpose" and surgical treatment must be provided by sub-specialist hand and wrist surgeons within service models that balance local care for the patient with efficient use of the sub-specialists' job planned time.

We recommend that each HB/regional network ensures that additional capacity is created within day case units by removing non-essential, non-surgical activity from existing day case units.

It is recognised that the majority of hand and wrist surgery can and should be undertaken under either L.A or regional block. The absence of this latter element of anaesthetic practice in some HB's leads to unnecessary utilisation of GA for hand and wrist surgical cases and affects theatre efficiency; our recommendations are outlined above.

4.9.2 Resource requirements

There are Consultant level fragilities in some HBs in terms of hand and wrist surgery. It is recommended that in such circumstances, HBs should form regional alliances with neighbouring HBs. Regional "passports" should be developed to allow surgeons to work across sites and HBs.

Action 12: Each HB or regional network should consider establishing "one stop shop" models of 1st outpatient and surgical intervention within one visit for certain pre-defined HVLC clinical conditions; immediate re-instatement of "one stop shop" where in place pre-pandemic.

Action 13: Develop standards in conjunction with BSSH for type of theatre facility and resource required for each basket of cases.

Action 14: "Minor procedure" facilities for certain cases to be located in appropriate primary care facilities wherever possible with surgical care provided by secondary care hand and wrist sub-specialist Outreach teams.

4.10 Post-operative

Increased daycase workload during the recovery period will mandate additional post-operative support in terms of pain management; we recommend suitably qualified pain management specialist nurses are allocated to recovery facilities to ensure prompt discharge. Discharge criteria should be in place to ensure goal determined nurse led discharge becomes the routine.

Follow-up protocols for all patients should be agreed nationally by the sub-specialty NHWCRG and implemented locally. It is recommended that initial post-op follow-up should be AHP or hand therapist led with hot access to a consultant review and that subsequent follow-up where necessary should be via a digital virtual platform allowing PROMS/PREMS to be collected automatically.

Action 15: Initial post-operative review standardised according to clinical condition or procedure and undertaken by specialist hand therapist or suitable AHP with an interest in hand and wrist surgery, working within an MDT setting with availability to access immediate consultant review.

5. Specialised, non-specialised and procedure specific considerations

The NHSE specialised prescriber manual was reviewed by the Hand and Wrist CRG. It was recognised that whilst the terminology may be applicable for commissioning within the NHSE framework (and in turn may be of relevance if NHSW commissioning evolves) it is not fully usable for clinical strategic planning.

The consensus of the CRG is that all Hand & Wrist procedures are *subspecialist*, including those that are categorised as non-*specialised*, and therefore should be performed by an Orthopaedic Surgeon with dedicated Hand & Wrist training. This will comprise of recognised Hand & Wrist fellowship training for prospective appointments, but recognising and respecting that in the current state, there are highly trained and experienced surgeons with a Hand & Wrist subspecialist interest who have not had formal fellowship training but who form an integral part of the national H&W Network.

The procedures beyond the commissioning terms appear to have fallen into three potential baskets.

a) Procedures that should be performed by all H&W surgeons and units.
b) Procedures that may need to be provided through local surgeon networks so that they can be delivered in all HBs.
c) Procedures that may need regional network collaboration, regional delivery units or both.

The table below sets out how this can be delivered for Hand & Wrist.

Delivery Model	Procedure/Pathway
All H&W surgeons locally	non-specialist soft tissue surgery to fascia and tendon routine arthrodesis of joint and carpal tunnel release Tendon grafting Routine high volume joint replacement of the finger
HB Network/MDT	Novel small joint replacements Complex scaphoid reconstruction
Regional	Radio-carpal wrist replacement Total distal radio-ulnar joint replacement Ulnar head replacement
Other	Complex microsurgical reconstruction including the thumb (plastics) Complex soft tissue cover (plastics) Nerve reconstruction (plastics)

Table 2. H&W CRG Procedure Analysis

Further detail on the outcome of the H&W CRG analysis by procedure can be found at (Annex2).

Action 16: NHWCRG to support and develop HB and regional networks for specific pathway and procedures in line with this document – Table 2.

5.1 Network Considerations

The predominantly high volume, day case nature of hand and wrist surgery and the relatively short procedure times means that centralisation or regionalisation to a single treatment hub is not appropriate. The majority of procedures can be provided within existing units and HBs. In some HBs this may require an outreach model to ensure sustainable consultant hand surgeon access. This is in line with "A Healthier Wales" design principles.

There is therefore a requirement to ensure equitable access to hand and wrist surgery in all HB's and localities which necessitates a regionally networked approach where deficiencies in local provision currently exist.

Discussions are underway at clinical level within HD and SBU with regard to South West Wales hand and wrist clinical network. It is recommended that these discussions are formalised and implemented through support at HB Executive level to facilitate joint consultant and hand therapist appointments across the region as a whole. This could be further enabled with an over-arching orthopaedic network in place.

For procedures which are deemed specialised or low volume, there is a need to adopt a regional network and MDT approach. Initial clinically led discussions are evolving into three separate regional networks serving the NWW, SWW and SEW. These networks will facilitate MDT discussion, joint decision-making and joint operating (where appropriate) with a monthly regional MDT and annual national MDT. This will be discussed and detailed further in the NCSOS Final Report 3.

Action 17: Regional networks to be developed for complex hand and wrist arthroplasty.

Action 18: Establish a South West Wales hand and wrist clinical network as part of an overarching W.O.N with operational capacity/authority and strategic influence.

6. Consultant Workforce Review

There are currently 182 Consultant Surgeons working within Orthopaedic Directorates in Wales. Within this there are 27 who report a declared hand and wrist sub-specialty interest.

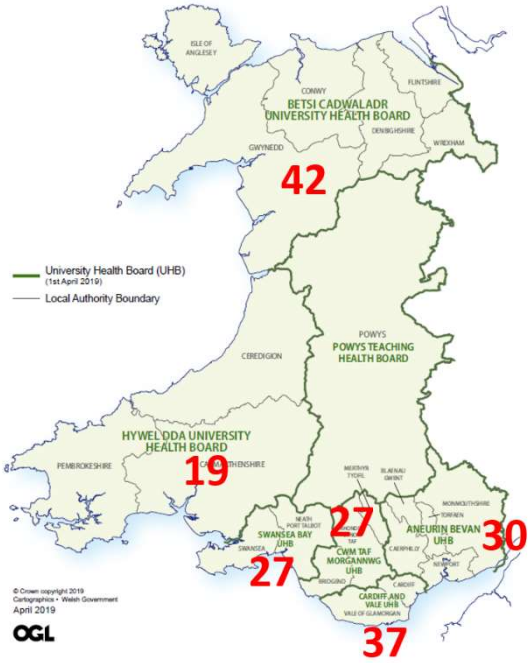

Fig. 1. Distribution of Orthopaedic Surgeons in Wales. (inc spines/paeds/trauma)

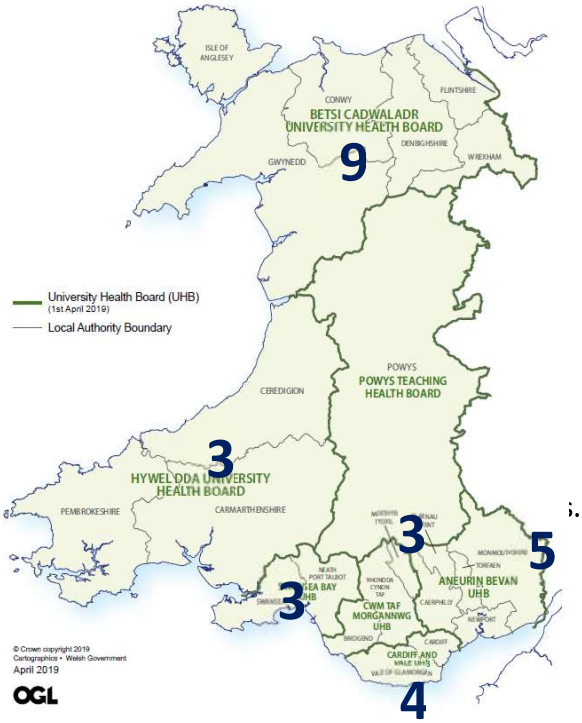

Fig. 2. Distribution of Orthopaedic Hand Surgeons in Wales.

Fig 1 and 2 illustrate the national Orthopaedic surgeons and hand and wrist surgeon's establishment for each HB respectively (Note that some Surgeons have more than one subspecialist interest hence this data is only reflective of available consultant skill set, not available time.)

A trainee survey is being conducted to horizon scan for future Hand and Wrist surgeons with an interest in working in NHSW. The output of this survey is included in the final report.

The table below demonstrates the number of surgeons per 100,000 population, together with number of hand surgeons the same, for each HB. The table also includes a 5 and 10-year horizon scan, taking into consideration potential retirements.

HB	Orthopaedic surgeon per 100,000 population	Hand Surgeon per 100,000 population	0-5 yrs horizon scanning	5-10 yrs Horizon scanning
AB	5.0	0.8	0.7	0.5
BC	6.0	1.3	1.3	1.1
CAV	7.3	0.8	0.8	0.6
CTM	6.0	0.7	0.4	0.4
HD	4.9	0.8	0.5	0.0
SB	6.9	0.8	0.8	0.8

Table 3. Orthopaedic surgeons per 100,000 population

7. Conclusion

This document represents the collaborative work of all the hand and wrist specialists in Wales, aggregated with existing UK guidance, to produce the best practice sub- specialist clinical pathways considered through the lens of the needs of the patient population throughout Wales.

There is concern that extraordinarily long Orthopaedic surgical waiting lists in NHSW are increasingly causing patient harm, disability and healthcare inequality compared with patients residing in England. Whilst difficult to quantify, clinicians are noting a significant uptrend in cases of harm. For Hand and wrist surgical patients this may involve having to live with crippling neurological pain and loss of function, severe contractures beyond retrieval, loss of occupation and inability to perform day to day tasks most take for granted.

Whilst there are some examples where integrated hand and wrist pathways provide value for patients in Wales, this is not the experience of all clinicians who report

poorly integrated pathways and poor compliance with standardised treatment pathways as a result. The reduction in quality of referrals from primary care where there is a lack of integration must be addressed as part of MSK pathways transformation. There is a clear recommendation for integrated pathways and associated MDT triage utilising APP clinicians and hand therapists.

Due to the majority of hand surgery being daycase and relatively quick procedures that can be delivered through low complexity infrastructures, it is recommended that they be provided through a wide daycase delivery network. Units within primary care should also be explored in line with BSSH guidance. This will ensure care as local to the patient as possible.

The lack of anaesthetic support to provide regional anaesthesia techniques threatens recovery and future sustainability for the sub-specialty of hand and wrist. This must be addressed.

It is required that these recommendations be integrated with the other subspecialty CRG recommendations and implemented as part of a national approach to transform musculoskeletal services to deliver high quality patient care adhering to prudent and value based principles. The final NCSOS report 3 “The National Blueprint for the delivery of Orthopaedic Surgery in Wales” details this integrated service model.

8. Summary Key Actions H&W (Annex 4)

9. Acknowledgements

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10. Appendices

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Annex 3 **H&W Summary Key Actions**	NCSOS Report 2C Annex 4 Summary Ke