Back Pain Assessment Clinic

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Back pain Assessment Clinic (BAC)

- BAC is a pilot project within THS-South, supported by the Surgical & Perioperative, Cancer, Chronic Diseases & Sub-Acute Care and Allied Health streams.

- Currently funded to assess and manage low back pain patients from the south of Tasmania referred to the THS for specialist care.

- Endorsed by the Neurosurgery, Rheumatology and Persistent Pain Services.

Traditional THS LBP pathway

No single entry point	Referrals directed to Pain Service, Neurosurgery, Rheumatology and/or Orthopaedics
↓	
Multiple appointments	Inefficient use of clinic capacity
↓	
Ad hoc management pathway	Assessment and management inconsistent across disciplines
↓	
No clear exit point	Discharge from service managed differently by disciplines

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Spinal Assessment Clinic

- 18 month pilot project conducted between 2008 - 2010.
- Physiotherapists assessing and managing low back pain patients from the Neurosurgery waiting lists with Rheumatology clinical oversight.
- Demonstrated positive outcomes:
  - Reduced waiting list / times (over 2 years to 26 weeks)
  - Reduced imaging and associated costs (10% of patients referred for imaging)
  - High patient satisfaction rates with clinics (93% satisfied or very satisfied)
  - Discharged or removed 458 pts from NSx wait list
- Not able to be permanently funded at that time – has been operating at a minimal capacity.

The problem

- Neurosurgery is a state-wide service.
  No tertiary pain services in the North or North-west.
  Limited capacity to see these patients in available tertiary services.

- Referral rate to Neurosurgery: 60 new referrals per week

- New patients seen: 30 patients per month

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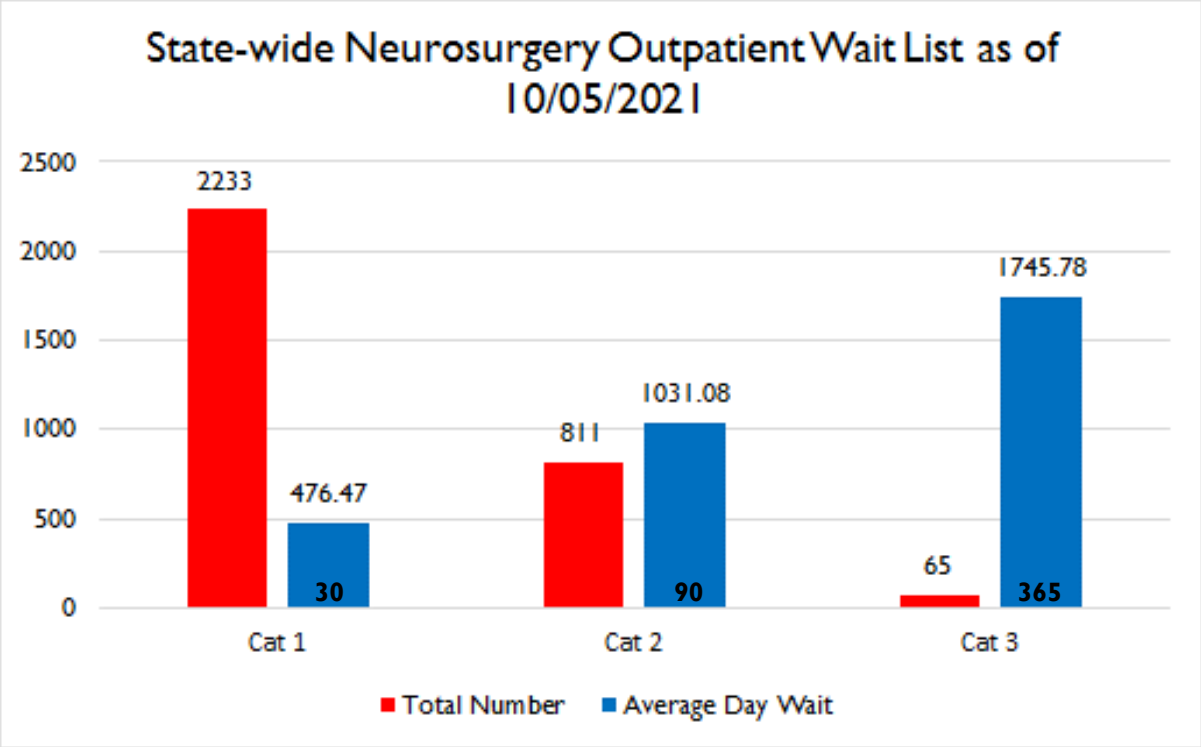
The problem



Total Number = 3109

Approximately 40% of referrals are for low back pain conditions

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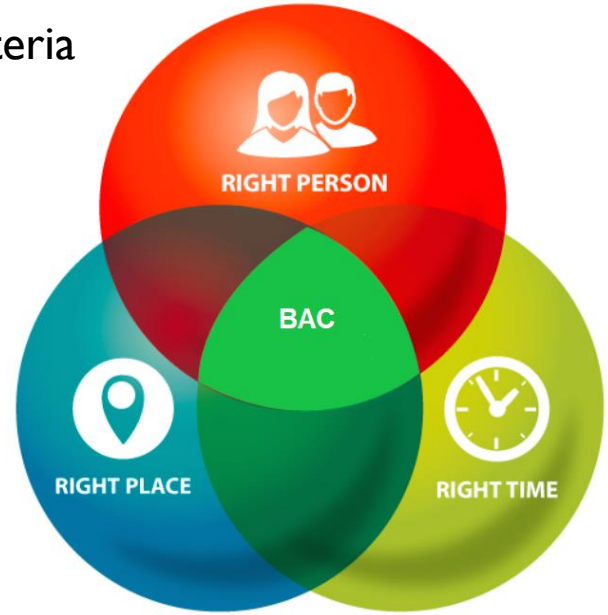
The problem

- Red Flag pathology present in 1- 4% of patients presenting with LBP[1,2]
- Most have not been managed according to evidence based guidelines
  (including trial of conservative management prior to referral)
- Low 'conversion to surgery' rate
  6-8% of patients referred to Neurosurgery[3]
- Deterioration in health related QoL and psychological wellbeing while waiting for care[4]

1. Prekumar et al (2018). Red flags for low back pain are not always really red: A prospective evaluation of the clinical utility of commonly used screening questions for LBP. *JBJS (Am),* 100(5), 368-374.
2. Henschke et al (2009). Prevalence and screening for serious spinal pathology in patients presenting to primary care settings with acute low back pain. *Arthritis and Rheumatism* 60(10), 3072-3080
3. Spinal Assessment Clinic pilot project 2008-2010
4. Lynch et al (2008). A systematic review of the effect of waiting for treatment for chronic pain. *Pain*; 136 (1-2): 97-116.

Backpain Assessment Clinic Process

- Single entry point for all back pain referrals
- Daily referral screening using inclusion/exclusion criteria
- Triage using standardised criteria
- Consistent comprehensive assessment
- Evidence based management plan
- Onward referral to most appropriate pathway
- Report and management plan back to referrer



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Pathways document agreed by THS stakeholders

Emergency LBP

- Cauda Equina Syndrome (back pain with neurological and bladder involvement)
- Bilateral nerve pain (leg pain going below knees)
- Bladder/bowel dysfunction
- Perineal anaesthesia
- Progressive weakness
- Foot drop with Cauda Equina Syndrome

↓

Direct referral to ED and telephone call to Neurosurgery Registrar on call to advise of impending presentation

Non-Emergency LBP

Refer to RHH Specialist Clinics

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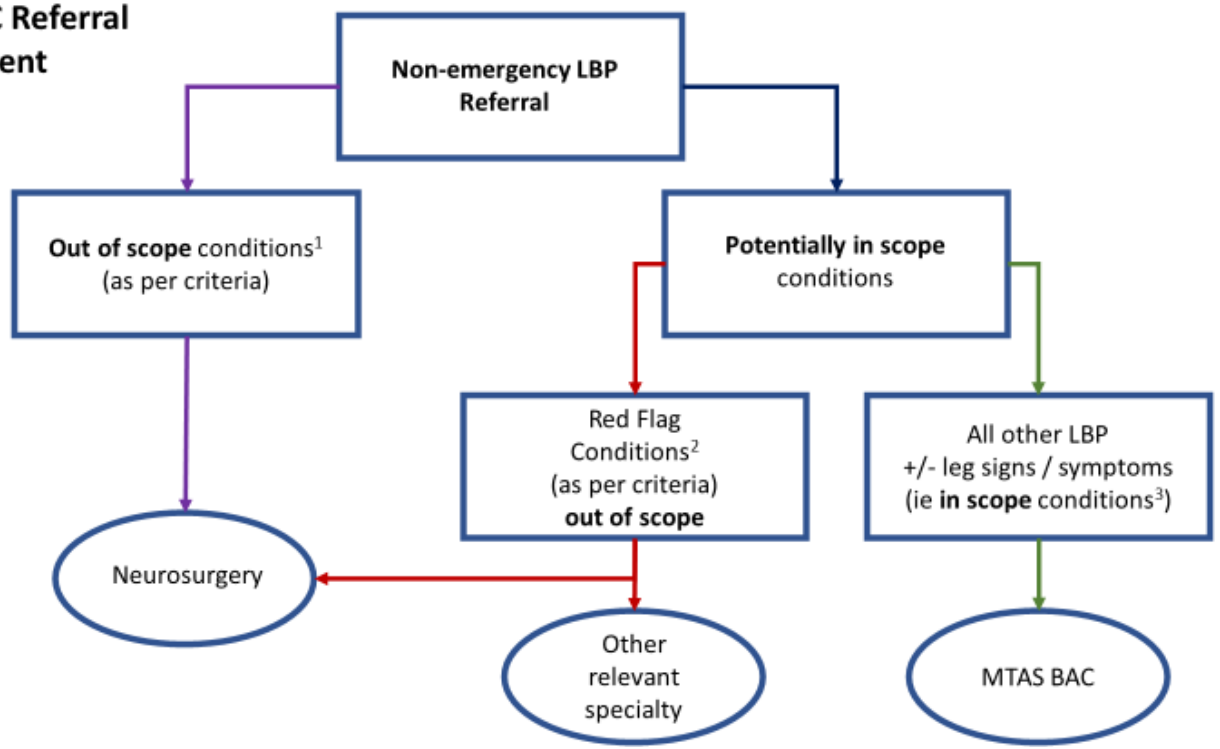
Non-emergency referrals

MTAS BAC Referral management



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Inclusion/exclusion criteria agreed by THS stakeholders

MTAS BAC Patient Screening Criteria

Non-emergency referrals		
Referral = out of scope condition	**Referral = <u>potentially</u> in scope LBP condition**	
Out of scope Conditions[1]: Immediately re-direct referral to Neurosurgery for triaging	'Red Flag' Conditions[2] (Out of scope): Re-direct to most appropriate specialist W/L for triaging	Appropriate conditions for MTAS BAC (In scope[3]) MTAS BAC for triaging
• Neurovascular disorders (aneurysm/AVM) • Subarachnoid haemorrhage • Hydrocephalus • Blocked or infected VP shunt • Cranial mass lesion (tumour or abscess) on CT or suspected, with headache, increasing drowsiness, increasing weakness or vomiting • Traumatic brain injury/skull fracture • Spinal cord injury/malformation • Cervical pain with/without radicular symptoms • Thoracic spine pain • Peripheral nerve lesions (eg LFCN entrapment) • Trigeminal Neuralgia with severe uncontrollable pain • Lumbar spinal surgery within 12 months • Already under Neurosurgery care and referred for the same condition • Paediatric conditions • Patient with Lower Back Pain resides within North or North-West Tasmania	• Spinal cord compression with severe or rapidly progressive deficit • Cauda equina Syndrome (back pain with neurological and bladder involvement) • Severe neurological deficits with rapidly progressive unilateral (e.g. foot drop) or bilateral leg weakness (i.e. unable to walk), or motor deficits at multiple levels • Back pain with known or high suspicion of neoplastic disease • Back pain with known or high suspicion of infection • Non-mechanical back pain presentation with features of systemic illness (history of carcinoma, steroid, use, HIV, unexplained weight loss, fever or raised CPR/ESR/WCC) • Back pain with confirmed abdominal aortic aneurysm (AAA) or other visceral pathology • Spinal fracture following recent major trauma • Spinal fracture following minimal trauma with neurological deficit • Diagnosed spondyloarthropathy	• Lower back pain (extending as far as the thoracolumbar region) aside from excluded presentations • Lower back pain with radicular pain +/- neurology not described previously • Patient resides within southern Tasmania • Patient age greater than 18 years

NB: Referral screening for non-emergency LBP referrals will be 5 days per week Monday to Friday.

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Current Back Assessment Clinic Structure

Staffing

- Single practitioner Ax
- 2 x Clinical Lead Physiotherapists
- Pain + Rheum Registrars

Location

- RHH 6 sessions/FN
- GHC 4 sessions/FN
- KHC 2 sessions/FN
- 12 Total

Oversight

- Direct communication N/Surg + Rheumatology as required
- Weekly case discussions with BAC consultant Rheumatologists
- Monthly Radiology meetings
- Quarterly Neurosurgery Spinal Radiology meetings

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Referrals data 23/9/2020 – 6/5/2021

- 1486 new referrals screened
- 787 other out of scope conditions (direct to Neurosurgery)
- 316 referrals appropriate for BAC
  (meet inclusion criteria and reside within south of Tasmania)
- 342 referrals from North and North-west regions
  (meet BAC inclusion criteria but out of area)
- 41 excluded Lx conditions (post-op / ?CE / foot drop / # etc)

i.e. approximately 20% of state-wide NSx referrals are suitable for BAC.

Outcomes data

- RHH clinics commenced 6/10/2020
- GHC / KHC clinics commenced 18/11/2020

- 186 patients seen in BAC

- 97 discharged at first appointment 52%
- 89 follow up appointments 48%
- 16 DNA <10%

BAC outward referral pathways

Neurosurgery

- Urgent cases – Immediate communication with Neurosurgery Registrar/Consultant
- Non-urgent cases – Spine Radiology review meeting or internal Consult Request

Other specialties (except PPS)

- Urgent cases – Immediate communication with Registrar/Consultant
- Non-urgent cases – internal Consult Request

PPS

- GP referral via BAC correspondence and discussion with patient.

Treatment referrals

• Physiotherapy	79
• Neurosurgery	9
• Persistent Pain Service	4
• Orthopaedics	2
• Rheumatology	2

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Investigations / procedures

- MRI 13
- CT scan 2
- US scan 1
- Plain films 8
- Bloods 2
- Nerve block 9
- Epidural 5
- Facet joint injections 6

NB Traditional Pathway = ~100% MRI

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BAC Into the Future

- Permanent funding of existing service

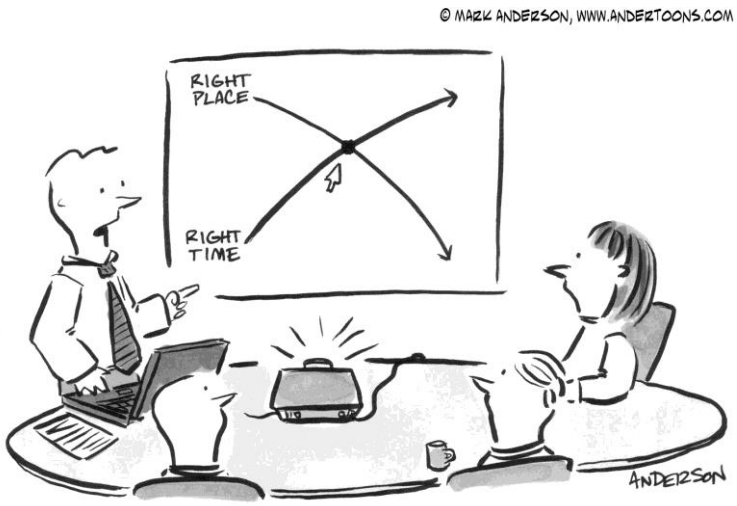
  Current staffing to provide 12 clinic sessions per fortnight is managing the current requirement of low back pain referrals for southern Tasmania.

- Whole of Tasmania service

  In order to meet demand of North and North-West this would need to approximately double.

- Extending BAC to include neck and thoracic conditions

  To expand to include cervical and thoracic conditions, this would need to increase by an additional 50%.



"That's where we want to be."

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Assessment Process

- Serious pathology <5%
- Specific 'readily treatable' biological cause low back pain <10%
- Nonspecific low back pain >85%

- Psychosocial factors - 20% of acute LBP becomes Persistent

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Assessment Process - Biological

Is there serious spinal pathology /specific cause?
Is it the spine?
Is further investigation required?
Is interventional management indicated?
Is surgical management indicated?

- Thorough medical history
- 'Red flag' Pathology Screen
- Imaging and investigations review
- Comprehensive physical assessment

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Assessment Process - Psychosocial

What psychosocial factors are contributing to their symptoms?

'Yellow Flag Screening"

- Validated tools - Orebro, Oswestry, PSEQ
- Subjective assessment
  - Attitudes, beliefs & behaviours
  - Compensation & employment
  - Understanding of Dx & treatment expectations
  - Emotion / psychological (e.g. depression)
  - Relationships

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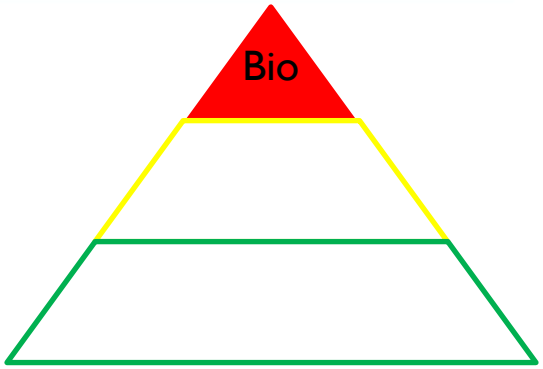
Management - Biological

- Further imaging, investigations or diagnostic blocks
- Interventional management
- Neurosurgery
- Other Specialist opinion
  - Rheumatology, Neurology, Orthopaedics etc.



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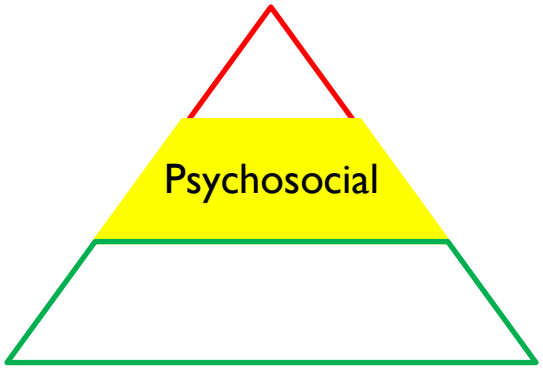
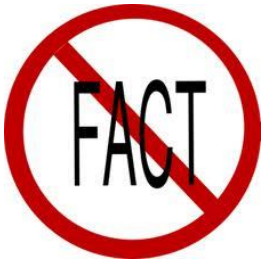
Management - Psychosocial

- Address beliefs & behaviors patient & carers
- Targeted pain education
- Activity pacing
- GP management mental health
- Local psychological input
- Persistent Pain Service





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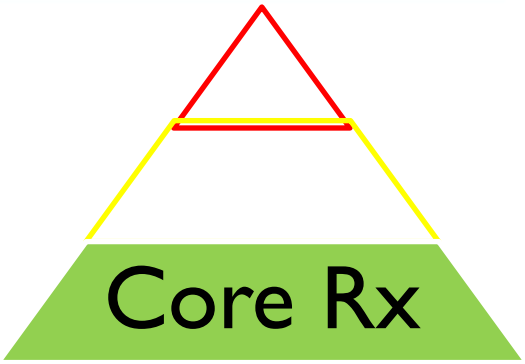
Management - All back pain

- Education
- Graduated increase in physical fitness
- Simple analgesia +/- co-analgesia
- Functional rehabilitation
- Re-education normal movement patterns
- Smoking cessation
- Weight management



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Case Studies – Actively Treatable Pathology

History

- Previously active 70 y.o male - mountain biking, Karate and bush walking
- Referral: Lumbar spine pain / R sided sciatica, for spinal surgery
- Lumbar CT: multi-level degenerative changes; mild central stenosis L4/5; foraminal stenosis L3/4 R>L; minimal anterolisthesis L4/5 (3mm)
- Nonresponsive to physiotherapy; <24hr relief L3/4 epidural, L3/4 + L4/5 facet blocks. Plan for decompression surgery but no Private Health
- Reports gradual onset right buttock-lateral thigh ache
- Aggravation: walking/standing (5min), stairs, bending, right side lying
- Pain free sitting. No cough impulse. Wakes 6x/night.

Case Studies – Actively Treatable Pathology

Examination

- Stands with anterior pelvic tilt, sits leaning to left
- Reduced stride + weight bearing on right
- Unable to SLS on right due to pain
- Mild-moderate loss lumbar range
- Minimal spinal tenderness
- No neurology. Passive SLR –ve (60° L=R)
- Hip range F 90; IR -30; ER 40
- FADIR +ve pain and crepitus

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The most common ‘other pathology’…

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Case Studies – Spinal Pathology

History

- 62 M with LBP, stiffness + increasing thoracic kyphosis
- Suspected AS → Bloods: normal; SIJ X-ray: no sacroiliitis
- T/S X-ray: min wedging + flowing osteophytes
- CT Lx: Multilevel degenerative changes → Referred to RHH
- 4yrs earlier presented with gait + reduced balance diagnosed with cerebellar gliosis post acoustic neuroma resection
- On assessment – reports 6/12 progressive weakness, ataxia, reduced balance + falling → wheelchair bound + assist with PADLs
- GP / DEM / Neurology / Physiotherapy – Unchanged diagnosis. No imaging

Case Studies – Spinal Pathology

- Constant dull ache, worse at night.
- No relief with Endone
- Bilateral lower limb numbness
- No cauda equina symptoms.

Examination

- Unable to walk. Romberg's +ve
- Reflexes ++ L/R. Babinski upgoing L/R
- Proximal lower limb weakness 3+/5
- Sensory level from lower trunk + both lower limbs

Diagnosis

- Suspected myelopathy / cord compression.
- MRI requested - only Cervical + Lumbar completed.
- Following review urgent Thoracic MRI ordered

Case Studies – Spinal Pathology

Report

- Extensive right paraspinal mass from T6 - T9 causing extradural cord compression and oedema, but no definite infarction at T6/T7. Multiple bony metastases. Possible R renal carcinoma

Treatment

- Urgent Neurosurgical review requested
- Decompression 48hrs later + chemotherapy
- Following rehab independent walking + ADLs

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Acknowledgements

- Cancer, Chronic Diseases & Sub-Acute Care
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- Physiotherapy, Rheumatology, Persistent Pain Service, Neurosurgery and Medical Imaging
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