

Factors for Successful Lower Limb Prosthetic Use



**Queensland
Government**

Medical Aids Subsidy Scheme
30 January 2025



The Medical Aids
Subsidy Scheme hosts the

MASS

EQUIPMENT, CONTINENCE & PROSTHETICS

TRADE SHOW

A free event for health professionals and people who use mobility, daily living, continence, and prosthetic aids. Featuring suppliers of equipment available through MASS and a range of workshops.



TRADE SHOW
FRIDAY, 21 FEB 2025
09:30 AM - 04:00 PM



LOGAN ENTERTAINMENT CENTRE
170 WEMBLEY RD
LOGAN CENTRAL QLD 4114

VISIT OUR WEBSITE
www.health.qld.gov.au/mass



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Register for pre-trade show workshops and other events via our MASS Education Calendar:
<https://www.health.qld.gov.au/mass/education>



MASS Expansion Project

Queensland Health's exciting pilot expansion of the Medical Aids Subsidy Scheme (MASS) improves access to essential assistive technology (AT) for some of the state's most vulnerable residents. This innovative project will run until June 2025, aiming to bridge service gaps, reduce waiting times, and improve the quality of life for those in need.



3



Palliative Care Equipment Program (PCEP)

For eligible Queenslanders with a life limiting condition with a prognosis of 6 months or less, who may have an NDIS eligible condition or are a refugee or asylum seeker. You may now be able to access the PCEP.

1



Disability

For eligible Queenslanders on a level 3-4 Home Care Package, or who are applying to or have been rejected by the NDIS. You may now be able to access a range of daily living, mobility and continence aids.

4



Spinal Cord Injury Response

For inpatients with a spinal cord injury receiving treatment in a Queensland Health facility outside of the Princess Alexandra Hospital. You may now be able to access the Spinal Cord Injury Response program.

2



Refugees

For eligible Queenslanders on a refugee or asylum seeker visa. You may now be able to access a range of daily living, mobility and continence aids.

5



Hospital to Discharge

For those who are medically ready for discharge, but have a permanent condition that require assistive technology for a safe discharge home. You may now be able to access a range of daily living and mobility aids.



A photograph of a man with a prosthetic lower limb walking across a crosswalk on a paved road. He is wearing a red t-shirt, blue shorts, and blue sneakers. The background shows a building and some trees. The image is slightly faded to allow text to be overlaid.

Factors for successful lower limb prosthetic use

Heather Batten PhD, BPhty, CF

Princess Alexandra Hospital

January 2025

Outline

- What defines “success” for a lower limb amputee?
- What is involved in safely donning a prosthesis?
- What characteristics influence successful prosthetic use?
- What is QALS Clinic?
- What characteristics are assessed at the QALS Clinic?
- Tips to prepare your patient for Amputee Clinic prosthetic assessment?
- Goals/ Case studies

What defines “success” for a lower limb amputee?

Independence

Quality of Life

Good health

Adaptation/
resilience

Walking with
a prosthesis

Participation

What is involved in safely donning a prosthesis?



Patient factors:

- Vision
- Good stump shape
- Good skin condition
- Hand function
- Flexibility
- Memory
- Problem solving ability
- Good condition of remaining leg
- Standing balance

Factors for Success

- Physical
- Prosthetic fit and comfort
- Psychological
- Rehabilitation and training
- Social and environment support
- Health and lifestyle



Fulton 2020



Physical Factors for Success

- Residual limb (stump) condition- skin health, shape, length
- Muscle strength and AROM- UL, LL, core
- Standing balance- >10sec unsupported
- Level of amputation (TTA 70% vs TFA 15%)
- Vision
- Hand dexterity
- Fitness



Energy Cost of Walking with prosthesis

Transtibial Non-vascular	12%
Transtibial Vascular	36%
Transfemoral Non-vascular	41%
Transfemoral Vascular	102%



Prosthetic Fit and Comfort

- Proper fit
- Customisation
- Alignment
- Advancements in prosthetic technology





Psychological Factors

- Mindset
- Mental health
- Psychological support
- Body image and acceptance
- Self-efficacy





Rehabilitation and Training

- Pre-hab
- Pain management
- Specialised prosthetic training
- Ongoing follow-up and care





Social and Environment Support

- Family, friends support
- Peer support
- Accessible community
- Specialised MDT
- Health team communication





Health and Lifestyle Factors

- Co-morbidities and overall health
cardiac, ESRF, obesity, smoking,
amputation aetiology
(Trauma 75% vs Vascular 50%)
- Pre-morbid function/ mobility
- Cognitive function

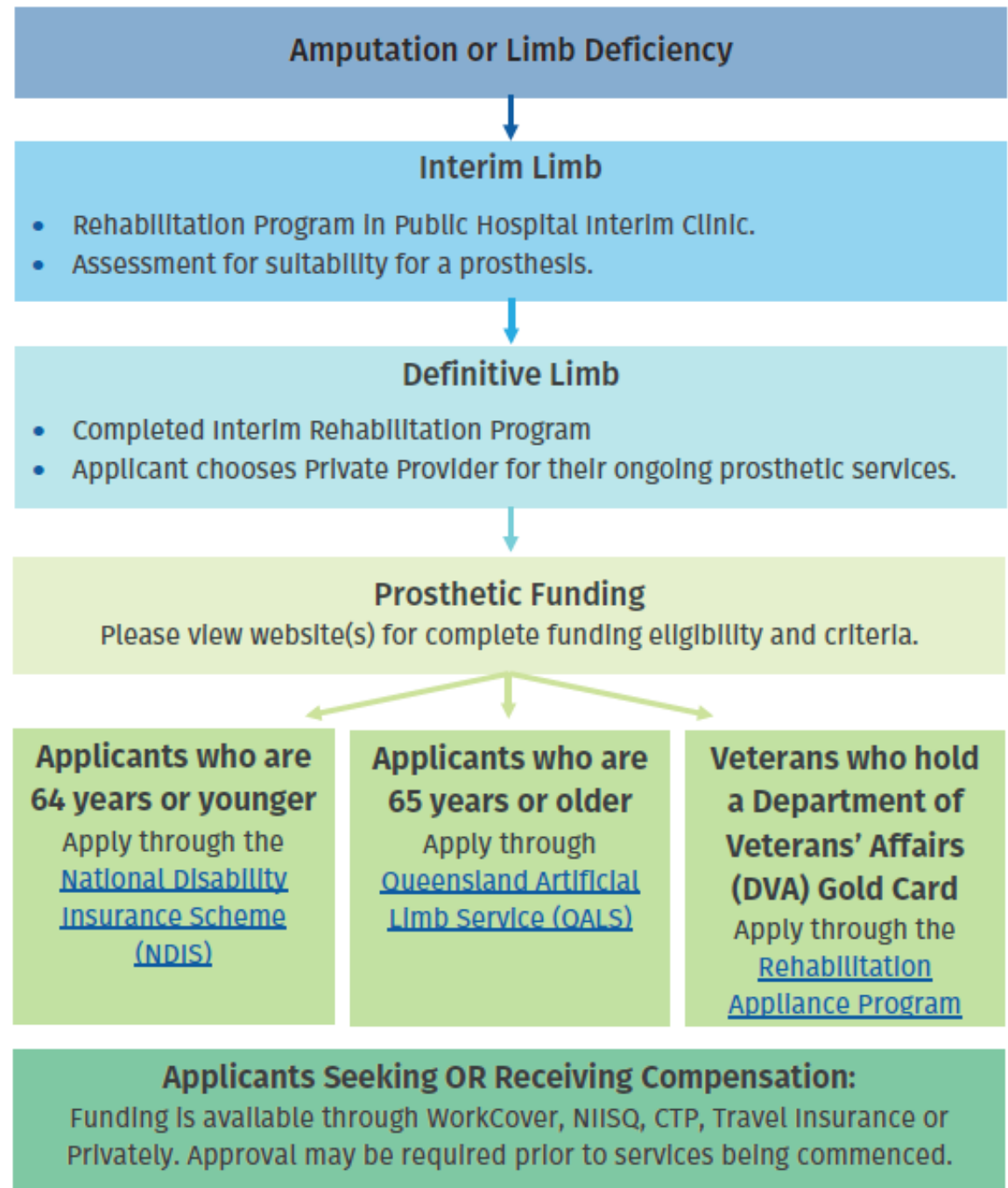


What is QALS?

Qld Artificial Limb Service are the administrative body for Queensland Health and govern the issuing of prosthetic legs in Queensland.

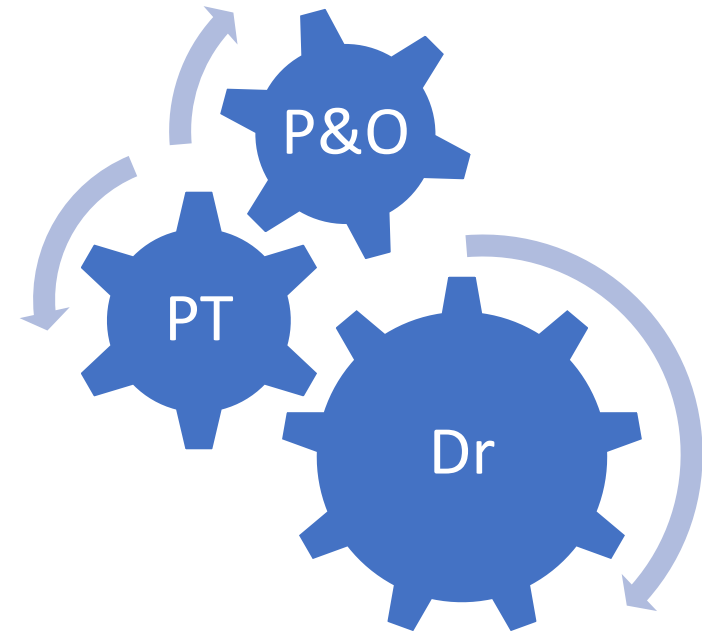


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What is QALS (Amputee) clinic?

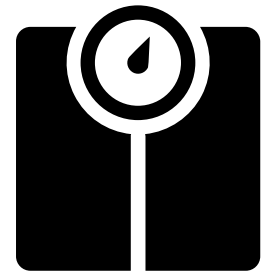
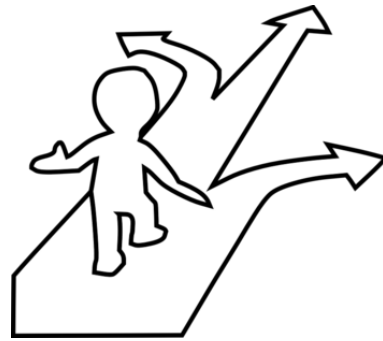
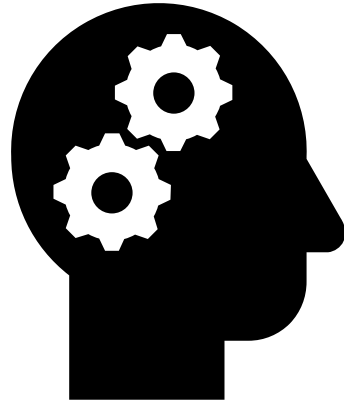
- Pre-amputation consult for surgical planning/ emotional support/ education
- New assessments for interim prostheses
- Script and manufacture Interim Prostheses
- Check out from interim prosthesis program
- Investigation of stump issues
- Pain management



What characteristics are assessed at the QALS Clinic?



PAIN



Tips to prepare your patient for Amputee Clinic prosthetic assessment

- Developed some realistic goals
- Commitment to prosthetic rehab progress eg wearing stump shrinker, stump care
- Regular cardiovascular fitness training
- Stand unsupported approx. 10sec (Standing balance)
- Self-massage stump daily with moisturiser (Self-monitoring stump)
- Demonstrate independence with exercises (Learning new things)
- Appropriate MWC (Indep Mobility)
- **No hopping** if vascular amputee (Protect remaining leg)
- Utilising MWC stump support (Managing stump oedema)
- No hip/ knee contractures. Prone lying daily (Maintain hip and knee AROM)

I can walk,
what's next?



Case Studies

60yo male with (L) TTA on Jan 2024 due to infected diabetic foot infection.

PMHx: multiple strokes
T2DM- peripheral neuropathy
dementia
ETOH dependence
Hep C +ve
Depression/ anxiety
Insomnia
Smoker- tobacco

Was living in RACF- later moved to NDIS group home.

Knee F contracture 20degrees

Not engaging in ex program at facility

42yo male with ® TTA June 2023 due to diabetic foot infection.

PMHx:
Schizophrenia
T2DM
L TM amputation 2022
Smoker- cannabis and tobacco

NDIS
Lives with brother
Not wearing footwear
Not using stump support
Not doing HEP
OK LL AROM

Case Studies

40yo male with Right transtibial amputation May 2024 due to diabetic foot infection

PMHx:

Poorly controlled T2DM

- Complications: retinopathy, peripheral neuropathy

Legally blind

L 5th ray amputation

Intellectual impairment

Smoker - cannabis and tobacco

Obesity 166kg

Heart failure with preserved ejection fraction

NDIS

Lives with sister

Furniture walker prior to amputation

Unable to stand unsupported

68yo male with (L) TTA on June 2024 for non-healing left 4th toe. Prev amputation left 2nd/3rd toes.

PMHx:

T1DM- peripheral neuropathy

Severe PVD

IHD- Stents x2

Right total shoulder replacement

Previous base of tongue SCC

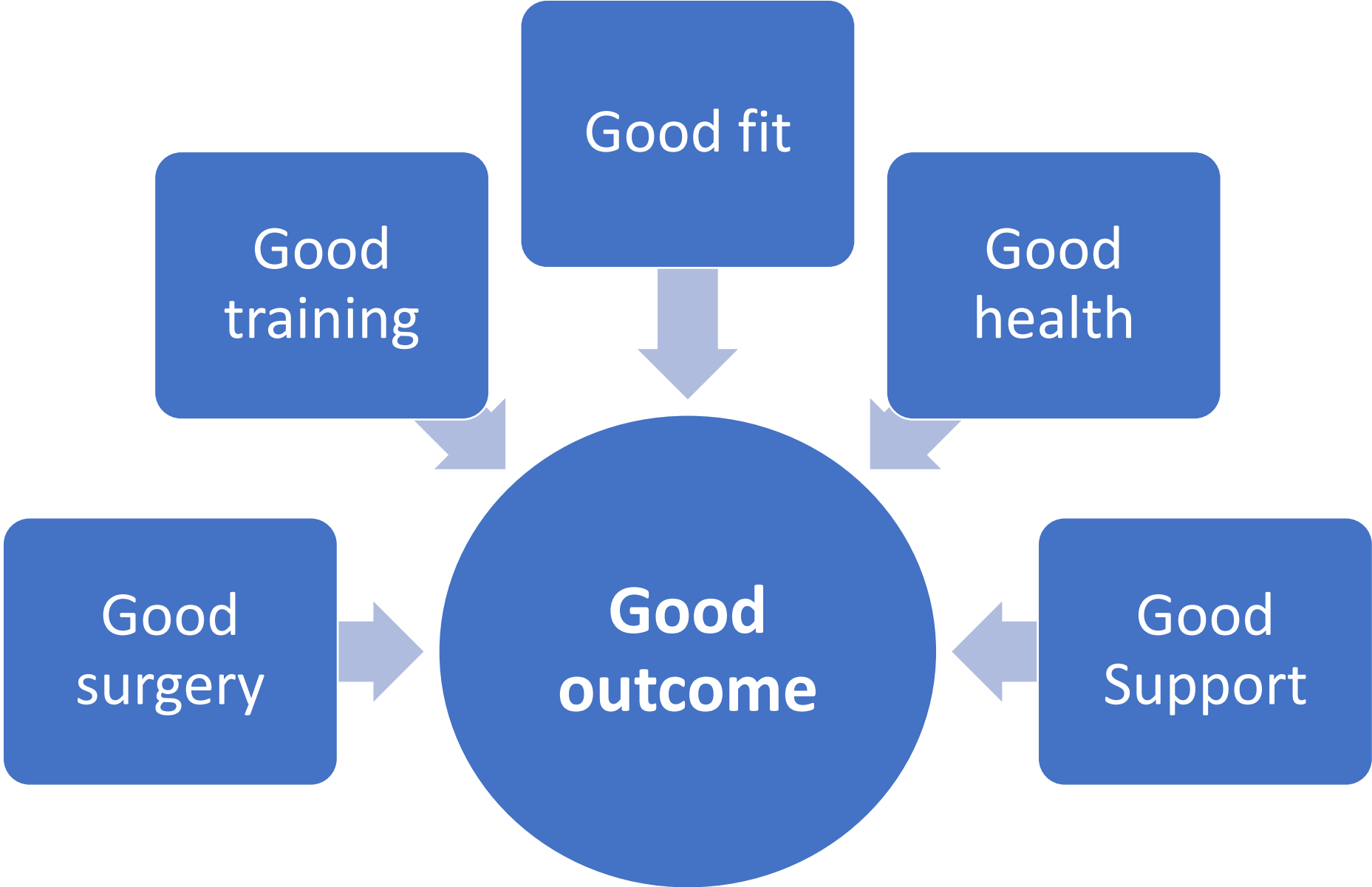
GIST tumour resection

Lives alone in retirement village unit with lift access

Prev driving, worked as project manager and walked unaided, ltd to few hundred metres with claudication pain bilaterally.

Inpatient rehab

Could stand unsupported 25sec and self-propel MWC 250-300m



Good fit

Good training

Good health

Good surgery

Good outcome

Good Support

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Thank you

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