



Guidance document for processing PM-JAY packages

Diabetic Foot

Procedures covered: 1

Specialty: General Medicine

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price (INR)
Diabetic Foot	Diabetic Foot	New Package	MG058A	General Ward- 1800/- HDU – 2700/- ICU without ventilator– 3600/- ICU with Ventilator– 4500/-

ALOS: NA

Minimum qualification of the treating doctor:

Essential: MBBS

Desirable: DNB/MS/MD/DM or equivalent (in General Medicine/Endocrinology/General surgery)

Special empanelment criteria/linkage to empanelment module: None

Disclaimer:

For monitoring and administering the claim management process of **Diabetic Foot**, NHA shall be following these guidelines. This document has been prepared for guidance of PROCESSING TEAM and TRANSACTION MANAGEMENT SYSTEM of AB PM-JAY for the claims of procedures mentioned above. The hospitals can also refer to this document so that they have the insight on how the claims will be processed. However, this document doesn't provide any guidance on clinical and therapeutic management of patient. In that respect the hospitals and physicians may refer to any other relevant material as per the extant professional norms.

PART I: GUIDELINES FOR CLINICIANS AND HEALTHCARE PROVIDERS

1.1 Objective:

The purpose of this section is to act as a guidance & a clinical decision support tool for the clinicians in deciding the line of treatment, plan clinical management of patient and decide referral of cases to the appropriate level of care (as required) for treatment of patients under PMJAY and selection of corresponding Health Benefit Package.

It will also serve as a tool for hospitals to determine and submit the mandatory documents required for claiming reimbursement of health benefit package under PMJAY.

1.2 Clinical key pointers:

Identification of historical and/or physical findings of Diabetic Foot can improve the prognosis and lead to a favourable outcome through appropriate treatment and early referral. The importance of recognition of risk factors and treatment of DFD is crucial to prevent potential limb and/or life-threatening complications.

Early detection and effective management of diabetic foot ulcers can reduce complications, including preventable amputations and possible mortality. Long-term efforts have reduced amputation rates by 37%–75% in different European countries over 10–15 years. Even when healed, diabetic foot should be regarded as a lifelong condition and managed accordingly to prevent recurrence.

Diagnosis

The history of the patient should cover several issues related to DFD, including some general and specific points. History of neuropathic and peripheral vascular symptoms should be elicited. History of smoking is important because it may be a risk factor for DFD. Though history plays an important role, it alone is not sufficient for a complete assessment of the risk factors for DFD. A thorough examination of the patient should also be done.

Along with general physical examination, such as height and weight, all patients with diabetes require a thorough examination of the foot. Patients should be examined after removing their shoes and socks to avoid missing any foot deformity. Gait and foot arch during movement must be observed too, for abnormal pressure points and deformities. During physical examination of the foot, skin, neurological, vascular and musculoskeletal examination should be done. Dermatological examination should include inspection of dryness or change in skin status and signs of infection or ulceration. Any deformity or wasting should be looked for during musculoskeletal examination. In addition to examination of the foot, footwear should also be examined as it may be responsible for the foot ulcer—especially commonly seen with the use of open slippers or tight Velcro straps. Vascular assessment of the foot should be done to check adequacy of blood supply. The tuning fork and monofilament tests are important in diagnosing loss of protective sensation (LOPS).

Skin	Neurological	Musculoskeletal
Appearance: Colour, texture, elasticity, quality, dryness	Vibration sensation: Using a tuning fork (Tuning fork test*)	Biomechanical deformities
Calluses	Light pressure: Using a 10 g monofilament (monofilament test†)	Gait
Fissures	Light touch: Cotton wool	Foot deformities such as Charcot
Nails	Pain: Needle prick	Previous amputation
Web spaces	Temperature sensation: Hot/cold	Joint mobility
Hair growth	Deep tendon reflexes: Patella and Achilles	Muscle strength

* *Tuning fork test.* The tuning fork is struck against the palm of the hand hard enough that it will vibrate for about 40 seconds. The base of the tuning fork is then applied to the patient's forehead or sternum to ensure that the sensation of vibration is understood. With the patient's eyes closed, the tuning fork is applied to the bony prominence situated at the dorsum of the first toe just proximal to the nail bed to check if the vibration is perceived. The patient is asked to mention when the vibration stops. One point is assigned for each vibration sensation perceived (vibration 'on'). Another point is assigned if the correct timing of dampening of the vibration is perceived (vibration 'off'). This procedure is repeated again on the same foot, then twice on the other foot in an arrhythmic manner so the patient does not anticipate when the stimulus is to be applied. This test can be used to rule out the presence of neuropathy.

† *Monofilament test.* The 10 g monofilament is an objective, simple instrument used in screening for loss of protective sensation (LOPS) in a diabetic foot. The examination should be done in a quiet and relaxed setting and the patient should not be able to see when and where the examiner applies the filament. First, the monofilament is applied on the inner wrist so the patient knows what to expect. This also serves to 'warm' the monofilament. Sufficient force is applied to cause the filament to bend or buckle. The total duration of the approach, skin contact and departure of the filament should be approximately 2 seconds. The filament is applied along the perimeter and not on the ulcer site, callus, scar or necrotic tissue. The filament is not allowed to slide across the skin or make repetitive contact at the test site. The filament is pressed to the skin such that it buckles at one of two times as you say 'time one' or 'time two'. Patients identify at which time they were touched. The sequence of application of the filament is haphazard throughout the examination. A site can be repeated to ensure accuracy. At least 10 sites are tested. These sites of testing have been illustrated in the diagrams in Appendix 1. No feeling in less than eight sites is interpreted as LOPS. The monofilament should be wiped with a detergent cloth after use.

Management

The goal of treatment of DFD is to obtain wound healing and closure as early as possible. Complete remission and non-recurrence can lower the chances of amputations in patients with DFD. The essential components of DFD management are:

1. Wound management
2. Medical management: Glycaemic and infection management
3. Lifestyle modifications:

Wound management

Off-loading, i.e. effective reduction in pressure, is the main objective of any treatment programme for healing of diabetic foot wounds. Off-loading is essential and often considered the most important component of the management of predominantly neuropathic plantar foot wounds. The neuropathic plantar foot wounds may heal satisfactorily, when off-loaded. With effective off loading, healing can generally be achieved in a period of 6-12 weeks. The patient may be gradually transferred to appropriate footwear, which may need extra depth or in the case of severe deformity, custom moulded.

Medical management

Glycaemic control

Though glycaemic control is usually supervised by a diabetologist or specialist consultant, one must be aware of the general norms and overall guidelines. The aim is to maintain blood glucose between 140 and 180 mg/dl, which could be self-monitored too. However, the glycaemic targets and blood glucose-lowering therapies are required to be individualized. Similarly, HbA1c targets should be individualized and monitored at least twice a year, since it is a good indicator of consistent blood glucose control over the past 2–3 months. Diet, exercise and education are the

foundation of any T2DM therapy programme. Ultimately, many patients will require insulin therapy alone/in combination with other agents to maintain glycaemic control.

Infection management

Foot infections are common and serious complications in people with diabetes, due to predisposition to infections and poor healing. Patients may present with either local and/or systemic signs of infections. Local signs may include pain or tenderness (might be absent in neuropathy), redness, local oedema, foul smelling purulent discharge, whereas systemic signs may include fever, chills, anorexia, nausea, and sometimes change in mental status. Medical management includes use of appropriate antimicrobial therapy for the diabetic wound, which may be used based on the wound category, with advice from a specialist. An antibacterial agent active against Gram-positive cocci especially methicillin-resistant *Staphylococcus aureus* (MRSA) may be needed in high-risk patients. Patients with gangrenous and foul-smelling discharge from the wound may need treatment with anti-anaerobic agents. However, the definitive therapy should be selected based on the results of culture and sensitivity analysis.

Lifestyle modifications

Lifestyle modifications such as diet, exercise, cessation of smoking and moderation of alcohol are essential components of management of DFD. Cessation of smoking should be encouraged in order to decrease the risk of vascular complications

1.3 Mandatory documents- For healthcare providers

Following documents should be uploaded by the concerned hospital staff at the time of pre-authorization and claims submission:

Mandatory document	Diabetic Foot
i. At the time of Pre-authorization	
a. Clinical Notes including evaluation findings, indications for the procedure, and planned line of treatment	Yes
b. Complete Blood count, Blood glucose level, HbA1C Report	Yes
c. Photograph of affected foot	Yes
ii. At the time of claim submission	
a. Detailed Indoor Case papers along with treatment details	Yes
b. Post treatment glucose level	Yes
c. Post treatment photograph of affected foot	Yes
d. Detailed Discharge Summary	Yes

PART II: GUIDELINES FOR PROCESSING TEAM

PART III: GUIDELINES FOR TRANSACTION MANAGEMENT SYSTEM (TMS)

3.1 Objective: To enable setting up of cross check mechanisms/rule engines within the IT platform (TMS) to ensure compliance with STGs and to prevent fraud / abuse of the Health Benefit Package.

3.2 Below mentioned are the scenarios where a provision would be built in TMS for pop-ups:

1. Was the pre and post treatment photograph of affected foot suggestive of Diabetic foot? Yes

Till the time the functionality is being developed, the processing doctors shall check the above manually.

References

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2. Singh N, Armstrong DG, Lipsky BA. Preventing foot ulcer in patients with diabetes. *JAMA* 2005; **293**: 217–28
3. Boulton AJM, Vileikyte L, Ragnarson-Tennvall G, Apelqvist J. The global burden of diabetic foot disease. *Lancet* 2005; **366**: 1719–24
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