

## Radiography in primary care diabetes

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### Abstract

Diabetes mellitus is a relatively common disease, and a variety of plain radiographic changes are frequently encountered in diabetic patients. Primary care physicians should be able to recognize these common x-ray findings so that early treatment may be started, thereby preventing disease progression and decreasing patient morbidity.

**Keywords:** Diabetes, Imaging, X-ray.

### Introduction

Diabetes affects almost every organ of the body. With increasing prevalence of diabetes, which compromises host immunity, the incidence of infections involving various organs of the body is also rising. This particular fact has been studied in detail. In primary care settings, however, limited investigational modalities are available to help diagnose such infections. The aim of this communication is to make primary care physicians working at grass root level aware of the common x-ray findings encountered in persons with diabetes. These are shown in Table.

Primary care physicians should be well versed with the common radiographic manifestations of diabetes. This will help in early diagnosis of the disease, and allow timely institution of therapy, thus improving clinical outcomes.

### References

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**Table:** Common radiographic findings encountered in persons with diabetes.

X-ray Findings	
<b>Head &amp; Neck</b>	<p><b><u>Fungal Sinusitis</u></b></p> <ul style="list-style-type: none"> <li>-Soft tissue mass with expansion and /or erosion of sinus wall</li> <li>-Erosion/destruction of bony orbit may be present<sup>1</sup></li> </ul> <p><b><u>Malignant (Necrotizing) Otitis Externa</u></b></p> <ul style="list-style-type: none"> <li>-Destructive bony lesion involving external auditory canal, middle ear, mastoid air cells and the temporal bone with/without involvement of skull base<sup>2</sup></li> </ul> <p><b><u>Osteomyelitis</u></b></p> <ul style="list-style-type: none"> <li>-Mixed sclerotic and lytic lesion of the bone with/without associated sinus tract<sup>3</sup></li> </ul>
<b>Chest</b>	<p><b><u>Pulmonary Tuberculosis</u></b></p> <ul style="list-style-type: none"> <li>-Atypical radiological presentation with involvement the lower lobe, may be multilobar disease</li> <li>-Nodular, exudative and mixed lesions may be present</li> <li>-Cavitary lesions are more common<sup>4</sup></li> </ul>
<b>Abdomen</b>	<p><b><u>Emphysematous Pyelonephritis</u></b></p> <ul style="list-style-type: none"> <li>-Gas observed in renal fossa region<sup>5</sup></li> </ul> <p><b><u>Emphysematous Cystitis</u></b></p> <ul style="list-style-type: none"> <li>-Streaky lucencies in the bladder wall, within the bladder or tracking proximally into the ureters<sup>6</sup></li> </ul> <p><b><u>Fibrocalculous Pancreatic Diabetes</u></b></p> <ul style="list-style-type: none"> <li>-Particularly common in developing countries, especially Southern India<sup>7</sup></li> <li>-Micronutrient deficiency may be a cause<sup>8</sup></li> <li>-Relatively large and round intraductal pancreatic calculi<sup>7,9</sup></li> <li>-Calcification of pelvic, ovarian, and uterine vessels</li> <li>-Calcification of vas deferens</li> <li>-Calcification of necrotic renal papillae<sup>10</sup></li> </ul>
<b>Limbs</b>	<p><b><u>Charcot Neuro-osteoarthropathy</u></b></p> <ul style="list-style-type: none"> <li>-Resorption of tuft of phalanges and metatarsals with characteristic "pencil" or "lick &amp; candy" appearance of metatarsal shafts<sup>11</sup></li> </ul> <p><b><u>Osteomyelitis</u></b></p> <ul style="list-style-type: none"> <li>-Mixed sclerotic and lytic lesion of the bone with/without associated sinus tract<sup>3</sup></li> <li>-Vascular calcification (Monckeberg's sclerosis-linear medial calcification) especially involving metatarsal arteries</li> <li>-Calcification of forelimb vessels</li> <li>-Calcific tendinitis</li> <li>-Chondrocalcinosis<sup>10</sup></li> </ul>

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