Merkel Cell Carcinoma

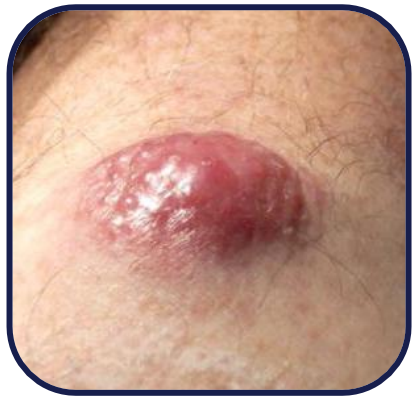
Disease State Overview

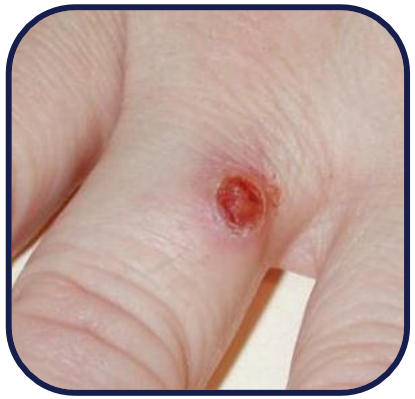
MI-DIS-US-0074 09/25

MCC is an Aggressive Cutaneous Malignancy

- MCC arises in the dermo-epidermal junction, and usually presents as a single, fast-growing, painless lump on sun-exposed skin, such as may be found on the head, neck, arms, legs, and trunk[1,2]
- Due to its nonspecific clinical appearance, MCC is rarely suspected before a biopsy is performed[1]

MCC nodule arising on a sun-exposed area of the arm[2]





MCC lesions are commonly misdiagnosed as cysts or other benign processes[2]

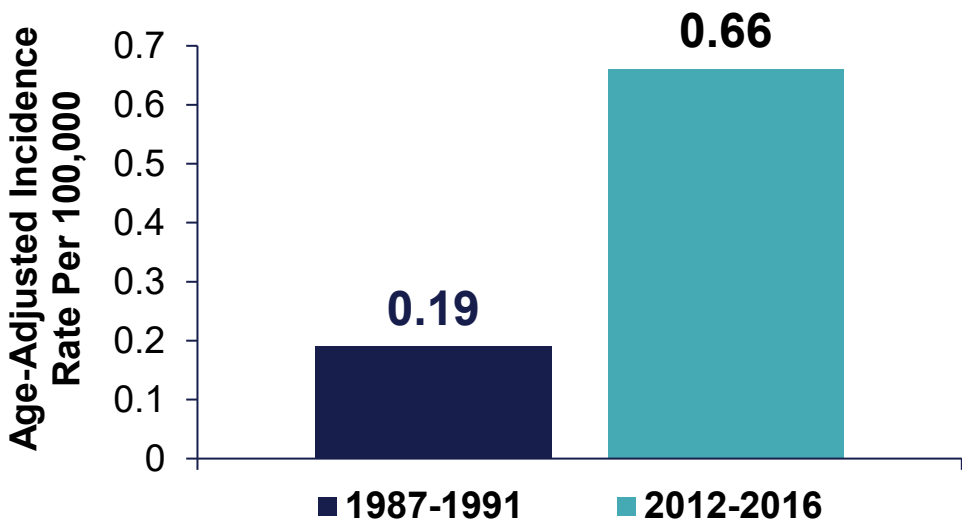
MCC develops rapidly with a strong tendency for local recurrence and distant spread.[2,3]
Mortality rate is high, exceeding that of melanoma.[4,5]

MCC, Merkel cell carcinoma.
Pictures reprinted from *J Am Acad Dermatol*, Vol 58(3), Heath M. et al, Clinical characteristics of Merkel cell carcinoma at diagnosis in 195 patients: the AEIOU features, Pages 375-81, 2008, with permission from the American Academy of Dermatology.

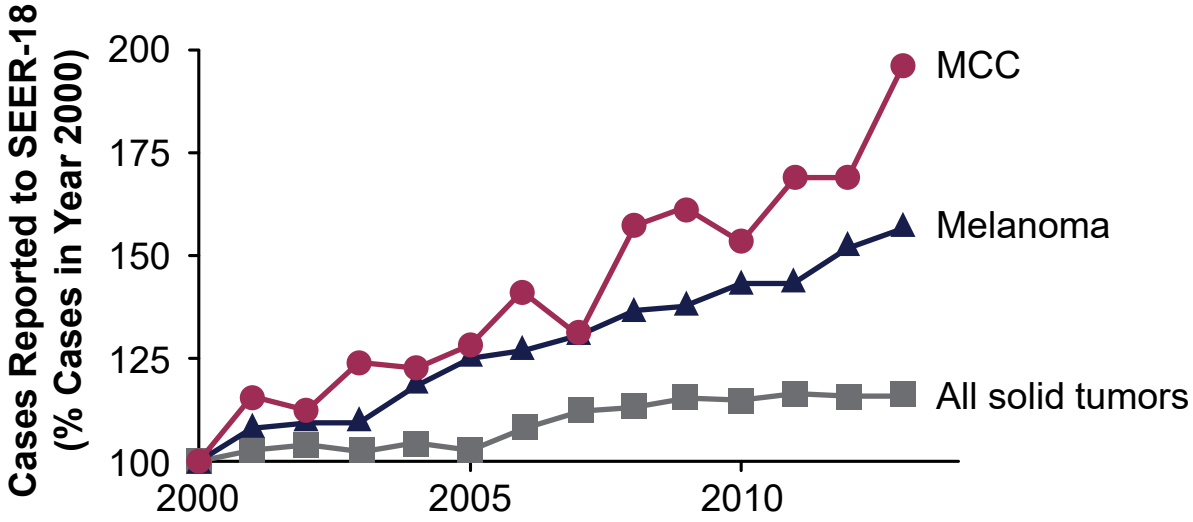
1. National Cancer Institute. Accessed August 2025. https://www.cancer.gov/types/skin/hp/merkel-cell-treatment-pdq#_242. 2. Heath M, et al. *J Am Acad Dermatol.* 2008;58:375-81. 3. Medina-Franco H, et al. *Ann Surg Oncol.* 2001;8:204-8. 4. Grabowski J, et al. *Clin Med Oncol*. 2008;2:327-33. 5. Schadendorf D, et al. *Eur J Cancer.* 2017;71:53-69.

MCC is Rare, With a Rapidly Increasing Incidence

In the US from 2012 to 2016, the overall age-adjusted incidence rate for MCC **increased 3.5-fold** compared with 1987 to 1991[1]



MCC incidence in the U.S. has been **increasing by ≈6% per year** and is expected to continue at this rate as the population ages[1,2]



MCC incidence is increasing at a markedly higher rate than other skin cancers and solid tumors[2]

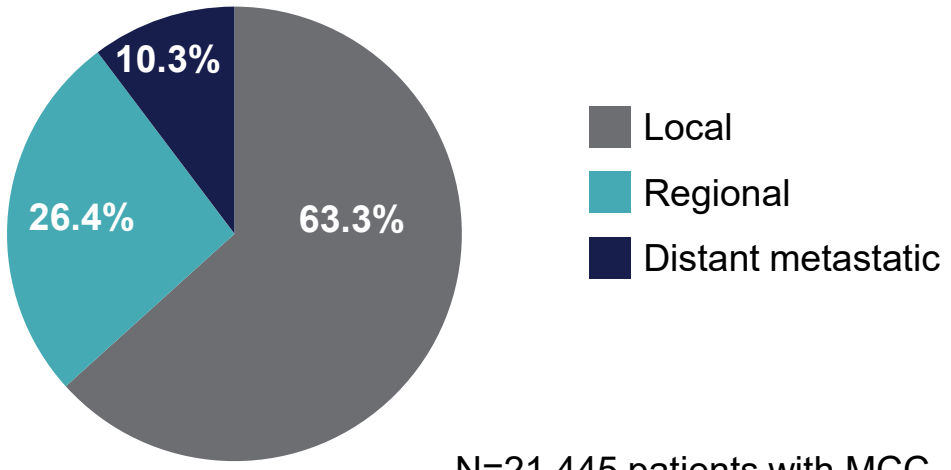
SEER, Surveillance, Epidemiology, and End Results; US, United States.

1. Jacobs D, et al. *JAMA Dermatol*. 2021;157:59-65. 2. Paulson KG, et al. *J Am Acad Dermatol*. 2018;78:457-463.e2.

Metastasis and Disease Recurrence Are Frequent in MCC, and Prognosis Is Poor

More than one third of MCC patients present with regional or distant metastasis[1]

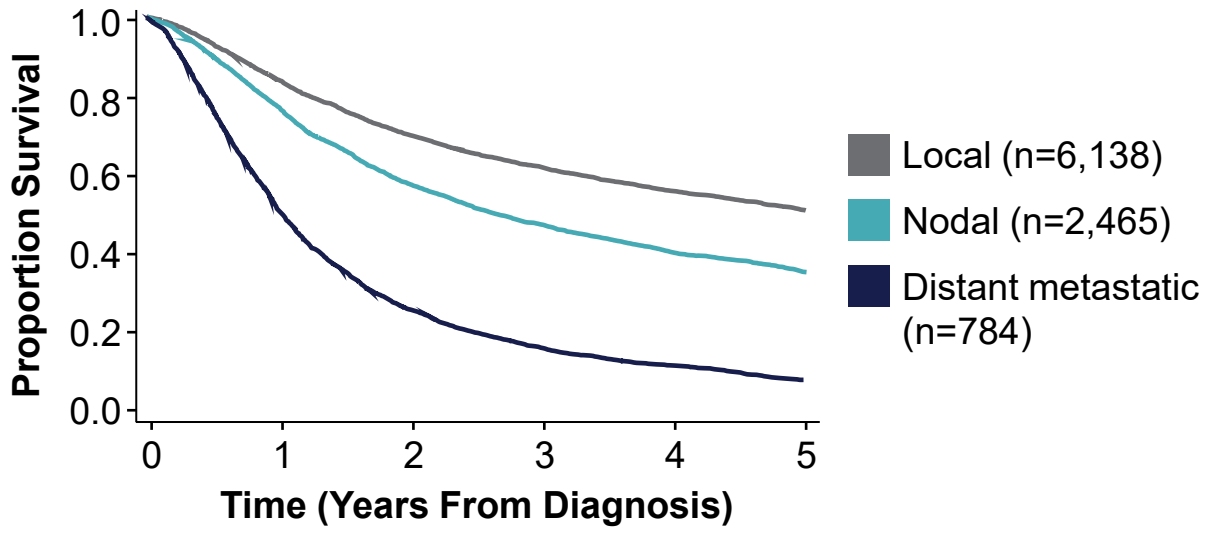
Extent of Disease at Presentation[1]



N=21,445 patients with MCC

Poor prognosis for metastatic or recurrent, locally advanced MCC[3]

MCC 5-Year Survival by Disease Extent[3]



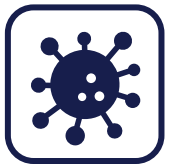
Recurrence is common (≈40%) and usually occurs within 3 years of diagnosis[2]

5-year OS of 51%, 35%, and 14% were reported for local, nodal, and distant metastatic disease, respectively[3]

OS, overall survival.

1. Paulson KG, Bhatia S. *J Natl Compr Canc Netw*. 2018;16:782-790. 2. McEvoy AM, et al. *JAMA Dermatol*. 2022;158:382-389. 3. Harms KL, et al. *Ann Surg Oncol*. 2016;23:3564-3571.

Irrespective of the Underlying Cause, MCC Is a Highly Immunogenic Cancer



- Approximately 80% of MCCs are associated with MCPyV infection[1,2]
  - Virus-positive MCCs elicit **oncoprotein-specific antibodies and a T-cell response**[3,4]

- MCC tumorigenesis can be linked to UV exposure[3,4]
  - UV exposure results in DNA damage and multiple oncogenic mutations that may generate **neoantigens for immune recognition**[3-6]

Both types of MCC show high expression of PD-L1, a marker of immune recognition[3,4]

DNA, deoxyribonucleic acid; MCPyV, Merkel cell polyomavirus; PD-L1, programmed cell death ligand 1; UV, ultraviolet.

1. Feng H, et al. *Science*. 2008;319:1096-1100. 2. Lipson EJ, et al. *Cancer Immunol Res*. 2013;1:54-63. 3. Vandeven NA, Nghiem P. *J Oncol Pract*. 2016;12:649-650. 4. Stachyra K, et al. *Int J Mol Sci*. 2021;22:6305. 5. Wong SQ, et al. *Cancer Res*. 2015;75:5228-5234. 6. Knepper TC, et al. *Clin Cancer Res*. 2019;25:5961-5971.

Summary

- MCC is an aggressive cutaneous malignancy that usually presents as a single, fast-growing, painless lump on sun-exposed skin, such as may be found on the head, neck, arms, legs, and trunk[1,2]
- MCC develops rapidly with a strong tendency for local recurrence and distant spread while having a high mortality rate[3,4]
- Recurrence is common, with a rate of ≈40%, and usually occurs within 3 years of diagnosis[5]
- Approximately 80% of MCCs are associated with MCPyV infection, although cases have also been linked to UV exposure[6-9]

1. National Cancer Institute. Accessed Aug 2025. https://www.cancer.gov/types/skin/hp/merkel-cell-treatment-pdq#_242. 2 Heath M. et al, Clinical characteristics of Merkel cell carcinoma at diagnosis in 195 patients: the AEIOU features, Pages 375-81, 2008, with permission from the American Academy of Dermatology. 3. Medina-Franco H, et al. *Ann Surg Oncol.* 2001;8:204-8. 4. Grabowski J, et al. *Clin Med Oncol*. 2008;2:327-33. 5. McEvoy AM, et al. *JAMA Dermatol*. 2022;158:382-389. 6. Feng H, et al. *Science*. 2008;319:1096-1100. 7. Lipson EJ, et al. *Cancer Immunol Res*. 2013;1:54-63. 8. Vandeven NA, Nghiem P. *J Oncol Pract*. 2016;12:649-650. 9. Stachyra K, et al. *Int J Mol Sci*. 2021;22:6305.

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