

INTRAPERITONEAL HYPERTHERMIC CHEMOTHERAPY

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Date Of Origin: January 3, 2008

Status: Current

I. POLICY/CRITERIA

1. Intraperitoneal hyperthermic chemotherapy (IPHC) also known as Hyperthermic Intraperitoneal Chemotherapy (HIPEC) may be covered when recommended by the National Comprehensive Cancer Network (NCCN) Guidelines, included but not limited to:
 - a. NCCN Guidelines: Colon Cancer
 - b. NCCN Guidelines: Gastric Cancer
 - c. NCCN Guidelines: Mesothelioma: Peritoneal
 - d. NCCN Guidelines: Ovarian Cancer Including Epithelial Ovarian Cancer/Fallopian Tube Cancer/ Primary Peritoneal Cancer
2. Intraperitoneal hyperthermic chemotherapy (IPHC) also known as Hyperthermic Intraperitoneal Chemotherapy (HIPEC) not recommended by NCCN may be covered as part of a clinical trial when the criteria of the Clinical Trials medical policies #91606 or #91448 are met.

II. MEDICAL NECESSITY REVIEW

Prior authorization for certain drug, services, and procedures may or may not be required. In cases where prior authorization is required, providers will submit a request demonstrating that a drug, service, or procedure is medically necessary. For more information, please refer to the [Priority Health Provider Manual](#).

III. APPLICATION TO PRODUCTS

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- ❖ **HMO/EPO:** *This policy applies to insured HMO/EPO plans.*
- ❖ **POS:** *This policy applies to insured POS plans.*
- ❖ **PPO:** *This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.*
- ❖ **ASO:** *For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.*

- ❖ **INDIVIDUAL:** *For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.*
- ❖ **MEDICARE:** *Coverage is determined by the Centers for Medicare and Medicaid Services (CMS) and/or the Evidence of Coverage (EOC); if a coverage determination has not been adopted by CMS, this policy applies.*
- ❖ **MEDICAID/HEALTHY MICHIGAN PLAN:** *For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html. If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html, the Michigan Medicaid Provider Manual will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.*

IV. DESCRIPTION

Intraperitoneal hyperthermic chemotherapy (IPHC) is used as an adjunct to surgery such as cytoreductive surgery for the treatment of some cancers that have penetrated or metastasized into the peritoneal cavity. The goal of IPHC is to enhance the cytotoxic effect of chemotherapeutic drugs, thereby killing disseminated tumor cells and reducing the risk of tumor recurrence.

IPHC involves using a heated sterile solution that is circulated throughout the abdominal cavity. A heated chemotherapy solution (3 to 5 L) is circulated in the peritoneal cavity for 30 to 120 minutes using a roller pump and heating circuit (Esquivel, 2009; Glehen et al, 2008). The temperature of the peritoneal infusate is kept between 40 and 43°C. With IPHC treatment, patients are connected to a series of tubes and a pumping device that bathe the abdominal cavity with a heated sterile solution containing anticancer (chemotherapeutic) drugs. The high temperature has been found to increase the drug's effect. The fluid goes through the abdomen to treat tumor cells that may remain after surgery. Both heat and direct contact with chemotherapy drugs kills the cancer cells.

V. CODING INFORMATION

ICD-10 Codes that may apply:

C45.1	Mesothelioma of peritoneum
C48.0	Malignant neoplasm of retroperitoneum
C48.1	Malignant neoplasm of specified parts of peritoneum
C48.2	Malignant neoplasm of peritoneum, unspecified
C48.8	Malignant neoplasm of overlapping sites of retroperitoneum and peritoneum
C78.6	Secondary malignant neoplasm of retroperitoneum and peritoneum

CPT/HCPCS Codes:

- 96547 Intraoperative hyperthermic intraperitoneal chemotherapy (HIPEC) procedure, including separate incision(s) and closure, when performed; first 60 minutes (List separately in addition to code for primary procedure)
- 96548 Intraoperative hyperthermic intraperitoneal chemotherapy (HIPEC) procedure, including separate incision(s) and closure, when performed; each additional 30 minutes (List separately in addition to code for primary procedure)

Coding Notes: CPT code 96446 identifies chemotherapy administration into the peritoneal cavity via implanted port or catheter. This procedure does not refer to external application of heat as described by CPT 77605. Heating of the chemotherapy agent for IPHC is not separately payable.

VI. REFERENCES

1. Ansaloni L, Agnoletti V, Amadori A, et al. Evaluation of extensive cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC) in patients with advanced epithelial ovarian cancer. *Int J Gynecol Cancer* 2012;22:778-785.
2. Armstrong DK, Bundy B, Wenzel L, Huang HQ, Baergen R, Lele S, Copeland LJ, Walker JL, Burger RA; Gynecologic Oncology Group. Intraperitoneal cisplatin and paclitaxel in ovarian cancer. *N Engl J Med*. 2006 Jan 5;354(1):34-43. doi: 10.1056/NEJMoa052985. PMID: 16394300
3. Baratti D, Kusamura S, Deraco M. Diffuse malignant peritoneal mesothelioma: systematic review of clinical management and biological research. *J Surg Oncol*. 2011 Jun;103(8):822-31. doi: 10.1002/jso.21787. Epub 2011 Jan 31. PMID: 21283990.
4. Di Giorgio A, Naticchioni E, Biacchi D, et al. Cytoreductive surgery (peritonectomy procedures) combined with hyperthermic intraperitoneal chemotherapy (HIPEC) in the treatment of diffuse peritoneal carcinomatosis from ovarian cancer. *Cancer* 2008;113:315-325.
5. El Halabi H, Gushchin V, Francis J, et al. The role of cytoreductive surgery and heated intraperitoneal chemotherapy (CRS/HIPEC) in patients with high-grade appendiceal carcinoma and extensive peritoneal carcinomatosis. *Ann Surg Oncol* 2012;19:110-114.
6. Esquivel J et al. Society of Surgical Oncology Annual Meeting. Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in the management of peritoneal surface malignancies of colonic origin: a consensus statement. Society of Surgical Oncology. *Ann Surg Oncol*. 2007 Jan;14(1):128-33. doi: 10.1245/s10434-006-9185-7. Epub 2006 Oct 28. Erratum in: *Ann Surg Oncol*. 2011 Dec;18 Suppl 3:S334-5. PMID: 17072675.
7. Esquivel J. Technology of hyperthermic intraperitoneal chemotherapy in the United States, Europe, China, Japan, and Korea. *Cancer J*. 2009 May-

- Jun;15(3):249-54. doi: 10.1097/PPO.0b013e3181a58e74. PMID: 19556912.
8. Fagotti A, Costantini B, Vizzielli G, et al. HIPEC in recurrent ovarian cancer patients: morbidity-related treatment and long-term analysis of clinical outcome. *Gynecol Oncol* 2011;122:221-225.
 9. Glehen O, Cotte E, Kusamura S, Deraco M, Baratti D, Passot G, Beaujard AC, Noel GF. Hyperthermic intraperitoneal chemotherapy: nomenclature and modalities of perfusion. *J Surg Oncol*. 2008 Sep 15;98(4):242-6. doi: 10.1002/jso.21061. PMID: 18726885.
 10. Haslinger M, Francescutti V, Attwood K, McCart JA, Fakih M, Kane JM 3rd, Skitzki JJ. A contemporary analysis of morbidity and outcomes in cytoreduction/hyperthermic intraperitoneal chemoperfusion. *Cancer Med*. 2013 Jun;2(3):334-42. doi: 10.1002/cam4.80. Epub 2013 Apr 16. PMID: 23930210; PMCID: PMC3699845.
 11. Kirmani S, Braly PS, McClay EF, Saltzstein SL, Plaxe SC, Kim S, Cates C, Howell SB. A comparison of intravenous versus intraperitoneal chemotherapy for the initial treatment of ovarian cancer. *Gynecol Oncol*. 1994 Sep;54(3):338-44. doi: 10.1006/gyno.1994.1220. PMID: 8088611.
 12. Krivak TC, Tian C, Rose GS, Armstrong DK, Maxwell GL. A Gynecologic Oncology Group Study of serum CA-125 levels in patients with stage III optimally debulked ovarian cancer treated with intraperitoneal compared to intravenous chemotherapy: an analysis of patients enrolled in GOG 172. *Gynecol Oncol*. 2009 Oct;115(1):81-85. doi: 10.1016/j.ygyno.2009.06.021. Epub 2009 Jul 12. PMID: 19596139; PMCID: PMC4380179.
 13. Kusamura S, Torres Mesa PA, Cabras A, et al. The role of Ki-67 and precytoreduction parameters in selecting diffuse malignant peritoneal mesothelioma (DMPM) patients for cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC). *Ann Surg Oncol* 2016;23:1468-1473.
 14. Kwakman R, Schrama AM, van Olmen JP, Otten RH, de Lange-de Klerk ES, de Cuba EM, Kazemier G, Te Velde EA. Clinicopathological Parameters in Patient Selection for Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemotherapy for Colorectal Cancer Metastases: A Meta-analysis. *Ann Surg*. 2016 Jun;263(6):1102-11. doi: 10.1097/SLA.0000000000001593. PMID: 26756756.
 15. Laterza B, Kusamura S, Baratti D, Oliva GD, Deraco M. Role of explorative laparoscopy to evaluate optimal candidates for cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC) in patients with peritoneal mesothelioma. *In Vivo*. 2009 Jan-Feb;23(1):187-90. PMID: 19368148.
 16. Lim MC, Chang S-J, Yoo HJ, et al. Randomized trial of hyperthermic intraperitoneal chemotherapy (HIPEC) in women with primary advanced peritoneal, ovarian, and tubal cancer. 2017;35:5520- 5520.

17. Liu EL, Mi RR, Wang DH, Wang LQ, Zhang YM, Chen WM. Application of combined intraperitoneal and intravenous neoadjuvant chemotherapy in senile patients with advanced ovarian cancer and massive ascites. *Eur J Gynaecol Oncol*. 2017;38(2):209-213. PMID: 29953782.
18. Manzanedo I, Pereira F, Perez-Viejo E, et al. Hyperthermic intraoperative intraperitoneal chemotherapy (HIPEC) with primary or secondary cytoreductive surgery in the treatment of advanced epithelial ovarian cancer. *Minerva Ginecol* 2017;69:119-127.
19. McRee AJ, O'Neil BH. The role of HIPEC in gastrointestinal malignancies: controversies and conclusions. *Oncology (Williston Park)* 2015;29:523-524, C523.
20. National Comprehensive Cancer Network (NCCN). NCCN Guidelines, Colon Cancer, Version 5.2024; August 22, 2024.
21. National Comprehensive Cancer Network (NCCN). NCCN Guidelines, Gastric Cancer, Version 5, 2024; December 20, 2024.
22. National Comprehensive Cancer Network (NCCN). NCCN Guidelines, Mesothelioma: Peritoneal, Version 1.2025; November 21, 2024.
23. National Comprehensive Cancer Network (NCCN). NCCN Guidelines, Ovarian Cancer Including Fallopian Tube Cancer and Primary Peritoneal Cancer, Version 3.2024; July 15, 2024
24. Nizam W, Fackche N, Pessoa B, et al. Prognostic significance of preoperative tumor markers in pseudomyxoma peritonei from low-grade appendiceal mucinous neoplasm: a study from the US HIPEC Collaborative. *J Gastrointest Surg* 2022;26:414-424
25. Paris I, Cianci S, Vizzielli G, et al. Upfront HIPEC and bevacizumab-containing adjuvant chemotherapy in advanced epithelial ovarian cancer. *Int J Hyperthermia* 2018;35:370-374.
26. Pasqual EM, Londero AP, Robella M, et al. Repeated cytoreduction combined with hyperthermic intraperitoneal chemotherapy (HIPEC) in selected patients affected by peritoneal metastases: Italian PSM Oncoteam Evidence. *Cancers (Basel)* 2023;15:607.
27. Pfannenber C, Königsrainer I, Aschoff P, Oksüz MO, Zieker D, Beckert S, Symons S, Nieselt K, Glatzle J, Weyhern CV, Brücher BL, Clausen CD, Königsrainer A. (18)F-FDG-PET/CT to select patients with peritoneal carcinomatosis for cytoreductive surgery and hyperthermic intraperitoneal chemotherapy. *Ann Surg Oncol*. 2009 May;16(5):1295-303. doi: 10.1245/s10434-009-0387-7. Epub 2009 Feb 28. PMID: 19252950.
28. Piso P, Dahlke MH, Loss M, Schlitt HJ. Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in peritoneal carcinomatosis from ovarian cancer. *World J Surg Oncol*. 2004 Jun 28;2:21
29. Roviello F, Marrelli D, Neri A, Cerretani D, de Manzoni G, Pedrazzani C, Cioppa T, Nastri G, Giorgi G, Pinto E. Treatment of peritoneal carcinomatosis by cytoreductive surgery and intraperitoneal hyperthermic chemoperfusion (IHCP): postoperative outcome and risk factors for morbidity. *World J Surg*. 2006 Nov;30(11):2033-40

30. Sarvestani AL, Gregory SN, Akmal SR, et al. Gastrectomy + cytoreductive surgery + hipec for gastric cancer with peritoneal dissemination (PERISCOPE II). *Ann Surg Oncol* 2024;31:28-30.
31. Shen P, Levine EA, Hall J, Case D, Russell G, Fleming R, McQuellon R, Geisinger KR, Loggie BW. Factors predicting survival after intraperitoneal hyperthermic chemotherapy with mitomycin C after cytoreductive surgery for patients with peritoneal carcinomatosis. *Arch Surg*. 2003 Jan;138(1):26-33
32. Smeenk RM, Verwaal VJ, Antonini N, Zoetmulder FA. Survival analysis of pseudomyxoma peritonei patients treated by cytoreductive surgery and hyperthermic intraperitoneal chemotherapy. *Ann Surg*. 2007 Jan; 245(1):104-9.
33. Shen P, Hawksworth J, Lovato J, Loggie BW, Geisinger KR, Fleming RA, Levine EA. Cytoreductive surgery and intraperitoneal hyperthermic chemotherapy with mitomycin C for peritoneal carcinomatosis from nonappendiceal colorectal carcinoma. *Ann Surg Oncol*. 2004 Feb; 11(2):178-86.
34. Sugarbaker PH, Ryan DP. Cytoreductive surgery plus hyperthermic perioperative chemotherapy to treat peritoneal metastases from colorectal cancer: standard of care or an experimental approach? *Lancet Oncol*. 2012 Aug;13(8):e362-9. doi: 10.1016/S1470-2045(12)70210-3. PMID: 22846841.
35. Tabrizian P, Shrager B, Jibara G, Yang MJ, Romanoff A, Hiotis S, Sarpel U, Labow DM. Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy for peritoneal carcinomatosis: outcomes from a single tertiary institution. *J Gastrointest Surg*. 2014 May;18(5):1024-31. doi: 10.1007/s11605-014-2477-5. Epub 2014 Feb 28. PMID: 24577736.
36. UpToDate. Anesthesia for cytoreductive surgery with heated intraperitoneal chemotherapy. Authors: Lewis AD, Dabo-Trublja; Section Editor: Jones SB; Deputy Editor: Crowley M. Topic last updated. August 23, 2023.
37. Walker JL, Armstrong DK, Huang HQ, Fowler J, Webster K, Burger RA, Clarke-Pearson D. Intraperitoneal catheter outcomes in a phase III trial of intravenous versus intraperitoneal chemotherapy in optimal stage III ovarian and primary peritoneal cancer: a Gynecologic Oncology Group Study. *Gynecol Oncol*. 2006 Jan;100(1):27-32. doi: 10.1016/j.ygyno.2005.11.013. PMID: 16368440.
38. Yan TD, Edwards G, Alderman R, Marquardt CE, Sugarbaker PH. Morbidity and mortality assessment of cytoreductive surgery and perioperative intraperitoneal chemotherapy for diffuse malignant peritoneal mesothelioma--a prospective study of 70 consecutive cases. *Ann Surg Oncol*. 2007 Feb; 14(2):515-25.
39. Yan TD, Sim J, Morris DL. Selection of patients with colorectal peritoneal carcinomatosis for cytoreductive surgery and perioperative intraperitoneal chemotherapy. *Ann Surg Oncol*. 2007 Jun;14(6):1807-17

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