



**Kaiser Foundation Health Plan of Washington**

**Clinical Review Criteria  
Radiation Therapy for Palmar Fibromatosis**

- Radiotherapy
- Dupuytren’s Contracture

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**Criteria  
For Medicare Members**

| Source                                 | Policy   |
|--|--|
| CMS Coverage Manuals                   | None   |
| National Coverage Determinations (NCD) | None   |
| Local Coverage Determinations (LCD)    | None   |
| Local Coverage Article                 | None   |
| KPWA Medical Policy                    | Due to the absence of a NCD, LCD, or other coverage guidance, KPWA has chosen to use their own Clinical Review Criteria, “Radiation Therapy for Palmar Fibromatosis,” for medical necessity determinations. Use the Non-Medicare criteria below. |

**For Non-Medicare Members**

There is insufficient evidence in the published medical literature to show that this service/therapy is as safe as standard services/therapies and/or provides better long-term outcomes than current standard services/therapies.

The following information was used in the development of this document and is provided as background only. It is provided for historical purposes and does not necessarily reflect the most current published literature. When significant new articles are published that impact treatment option, Kaiser Permanente will review as needed. This information is not to be used as coverage criteria. Please only refer to the criteria listed above for coverage determinations.

**Background**

Dupuytren’s contracture (DC) is a fibrotic tissue disorder affecting the hands. It is a benign condition characterized by thickening connective tissue in the palm eventually progressing to the formation of nodules and cords. Symptoms typically occur in both hands and progress gradually over time at variable rates. The lumps or dermal pits can be present for extended periods of time before a cord may develop causing the fingers to contract. The contracture, however, may not become troublesome for years or may never progress at all.

DC has a global prevalence of 3-6% primarily affecting males and Caucasian populations. Most patients will present with symptoms in middle age (Rizzo, Stern et al. 2013). Typically diagnosed upon physical examination, the etiology of DC is unknown, however, there is believed to be a strong genetic component as it most commonly occurs in people of Northern European or Scandinavian ancestry and often runs in families. The literature has also suggested associations with diabetes, seizures, smoking, alcohol, trauma and beta-blockers.

At present, there is no cure for DC. Available treatment options include both invasive and noninvasive modalities and typically focus on managing the disability and preventing progression (NICE 2010). Stretching, massage and splinting are frequently recommended while corticosteroid injections and fasciectomy have been used in more

extreme and developed cases. In any case, most treatment options have limited effectiveness as 20% of patients experience recurrence of symptoms.

Radiation therapy or radiotherapy (RT) is a non-surgical treatment option that is reported to halt or slow the progression of DC in its early stages. Aimed to prevent or postpone the need for surgical intervention, the mechanism for action is unclear, but it is thought to affect the development and growth rate of fibroblasts within the palmar fascia. RT treatment of the affected nodules and cords can be performed with either superficial x-rays or electron beams. The technique is typically carried out over several consecutive visits until the intended radiation dose has been achieved.

## Medical Technology Assessment Committee (MTAC)

### Radiotherapy for Dupuytren's Contracture

#### 10/20/2014: MTAC REVIEW

**Evidence Conclusion:** The most recent study, published by Zirbs and colleagues in September of 2014, included 355 patients with DC who had undergone soft X-ray between 1999 and 2008 at one of two sites in Germany. Participants were asked to respond to a structured questionnaire addressing family history, predisposing factors, occupation, disease characteristics, progression, treatments, effects, side-effects, and satisfaction using a visual analogue scale (VAS). Over half (58%) of patients responded to the questionnaire and, of those, almost 80% reported no progression of symptoms after receiving treatment and were satisfied with therapy. The investigators noted a significantly higher improvement in patients with who had experienced symptoms for less than 20 months, supporting the hypothesis that early stages of DC are treated more effectively. Ultimately, the authors concluded that radiotherapy was well-tolerated and prevented further disease progression in most patients (Zirbs, Anzeneder et al. 2014). In the only RCT identified, Seegenschmiedt and colleagues compared two different radiation techniques with the overall aim of optimizing radiation dose. The study included 129 patients (198 hands) who were randomly assigned to receive one of two RT schedules (30 Gy vs. 21 Gy). Subjective responses, DC stage, nodule number, size and consistency, as well as, cords and finger mobility were assessed at two follow-up appointments. At one year, the investigators reported that objective symptom assessment showed indications of regression in over half (56%) of the hands treated with 30 Gy of radiation. Similarly, of the group treated with 21 Gy of radiation, 53% of hands showed signs of regression. Subjective symptom assessment also indicated regression of DC in both groups with 65% and 53% of patients in groups A and B, respectively. The investigators, however, do not indicate if this difference was significant. Ultimately, the authors conclude that both tested regimens are well accepted and tolerated by patients. (Seegenschmiedt, Olschewski et al. 2001). Betz and colleagues present a case series of 135 patients (208 hands) who were irradiated with orthovoltage in two courses of five daily fractions of 3.0 Gy (total dose of 30 Gy) separated by a six to eight-week interval. The investigators were able to follow-up 76% of hands treated at 13 years and reported complete relief of symptoms in 16% of patients, good relief in 18% and minor relief in 32% patients. Ultimately, the investigators concluded that radiotherapy is effective in prevention of disease progression and improves patient's symptoms in early stage DC. (Betz, Ott et al. 2010). In terms of safety, theoretical adverse events could be anything that we already know to be associated with radiation such as skin dryness, scarring/hand stiffness, and long-term potential for developing radiation induced cancer. The included studies list both acute and chronic symptoms such as dryness and desquamation, skin atrophy, lack of sweating, telangiectasia and sensory affection. Seegenschmiedt and colleagues also detailed a higher acute toxicity in the low-dose group receiving (21Gy) when compared to the medium-dose group (30 Gy) siting the dose-time factor as the cause. In any case, all three studies ultimately concluded that the radiation therapy was well tolerated. On the whole, the body of evidence is limited and should be interpreted with caution. First and foremost, none of the included studies used an adequate comparator. In two of the selected studies no comparison group was used, and in the one study that did make comparisons, no sham group was included. To add to this, each study utilized different radiation doses at different regimens without identifying an ideal or standard dose. The inclusion criteria may also be a limiting factor as all three of the studies included patients who had previously received treatment limiting the ability to exclude the effects of prior treatment. Finally, only one of the studies, by Betz and colleagues, provides adequate follow up (13 years) to assess progression of symptoms and long-term safety. Conclusions: There is insufficient evidence to support the effectiveness of radiation therapy for patients with DC. There is insufficient evidence to support the safety of radiation therapy for the treatment of DC.

**Articles:** The literature was searched for publications assessing the safety and effectiveness of RT for DC. Several publications were revealed, many of which were published in languages other than English (primarily German). There were no randomized controlled trials (RCTs) comparing the effectiveness of RT with surgical intervention or any other medical intervention for that matter. One RCT was discovered that compared the effectiveness of two different radiation doses. In addition, two recent case series were included to address safety. The following articles were selected for critical appraisal: Zirbs M, Bruckbauer AH, Hoffman H, et al., Radiotherapy with soft X-rays in Dupuytren's disease – successful, well-tolerated and satisfying. European

Academy of Dermatology and Vernereology. 2014. See [Evidence Table 1](#). Seegenschmiedt MH, Olschewski T, Guntrum F. Radiotherapy optimization in early-stage dupuytren’s contracture: first results of a randomized clinical study. Int J Radiation Oncology Biol Phys. 2001; 49(3):785-798. See [Evidence Table 2](#). Betz N, Ott OJ, Adamietz B, et al. Radiotherapy in early-stage Dupuytren’s contracture. Strahlenther Onkol. 2010;186(2): 82-90. See [Evidence Table 3](#).

The use of Radiotherapy for Dupuytren’s Contracture does not meet the *Kaiser Permanente Medical Technology Assessment Criteria*.

## Applicable Codes

### Considered Not Medically Necessary:

| CPT® or HCPC Codes                              | Description   |
|---|---|
| <b>77401</b>                                    | Radiation treatment delivery, superficial and/or ortho voltage, per day |
| <b>Effective September 1<sup>st</sup>, 2024</b> | <b>Effective September 1<sup>st</sup>, 2024</b>                         |
| <b>77412</b>                                    | Radiation treatment delivery, => 1 MeV; complex                         |
| <b>With diagnosis code</b>                      |   |
| <b>M72.0</b>                                    | Palmar fascial fibromatosis [Dupuytren]                                 |

**\*Note:** Codes may not be all-inclusive. Deleted codes and codes not in effect at the time of service may not be covered.

\*\*To verify authorization requirements for a specific code by plan type, please use the [Pre-authorization Code Check](#).

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| Date Created | Date Reviewed   | Date Last Revised |
|--------------|---|-------------------|
| 10/28/2014   | 11/07/2014 <sup>MPC</sup> , 09/01/2015 <sup>MPC</sup> , 06/07/2016 <sup>MPC</sup> , 04/04/2017 <sup>MPC</sup> , 02/06/2018 <sup>MPC</sup> , 01/08/2019 <sup>MPC</sup> , 01/07/2020 <sup>MPC</sup> , 01/05/2021 <sup>MPC</sup> , 01/04/2022 <sup>MPC</sup> , 01/10/2023 <sup>MPC</sup> , 04/02/2024 <sup>MPC</sup> | 04/17/2024        |

<sup>MPC</sup> Medical Policy Committee

| Revision History | Description   |
|------------------|---|
| 12/24/2019       | Added guidelines for Medicare members to use commercial criteria. |
| 4/17/2024        | Added code 77412. Requires 60-day notice, effective 9/1/2024.     |