# **Subgroup 1 - Targeted intraoperative radiation therapy**

| **Item number** | **Item descriptor** | **Fee** |
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| 15900 | Breast, malignant tumour, targeted intraoperative radiation therapy, using an Intrabeam® or Xoft® Axxent® device, delivered at the time of breast conserving surgery (partial mastectomy or lumpectomy) for a patient who:  (a) is 45 years of age or over; and  (b) has a T1 or small T2 (less than or equal to 3 cm in diameter) primary tumour; and  (c) has a histologic grade 1 or 2 tumour; and  (d) has an oestrogen receptor positive tumour; and  (e) has a node negative malignancy; and  (f) is suitable for wide local excision of a primary invasive ductal carcinoma that was diagnosed as unifocal on conventional examination and imaging; and  (g) has no contra indications to breast irradiation  Applicable once per breast per lifetime (H) | 284.75 |

# **Subgroup 2 - Megavoltage**

| **Megavoltage item number** | **Item descriptor** | **Fee** |
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| **Planning items** | | |
| 15902 | Megavoltage planning—level 1.1  Simple complexity single‑field radiation therapy simulation and dosimetry for treatment planning, without imaging for field setting, if:  (a) all of the following apply in relation to the simulation:  (i) the simulation is to one site;  (ii) localisation is based on clinical mark‑up and image‑based simulation is not required;  (iii) patient set‑up and immobilisation techniques are suitable for two‑dimensional radiation therapy treatment, with wide margins and allowance for movement; and  (b) all of the following apply in relation to the dosimetry:  (i) the planning process is required to deliver a prescribed dose to a point, either at depth or on the surface of the patient;  (ii) based on review and assessment by a radiation oncologist, the planning process does not require the differential of dose between target, organs at risk and normal tissue dose;  (iii) delineation of structures is not possible or required, and field borders will delineate the treatment volume;  (iv) doses are calculated in reference to a point, either at depth or on the surface of the patient, from tables, charts or data from a treatment planning system  Applicable once per course of treatment | 725.45 |
| 15904 | Megavoltage planning—level 1.2  Simple complexity radiation therapy simulation and dosimetry for treatment planning, with imaging for field setting, if:  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for two‑dimensional radiation therapy dose planning;  (ii) patient set‑up and immobilisation techniques are suitable for two‑dimensional radiation therapy treatment where interfraction reproducibility is required;  (iii) imaging datasets are acquired for the relevant region of interest to be planned; and  (b) all of the following apply in relation to the dosimetry:  (i) the two‑dimensional planning process is required to calculate dose to a volume, however a dose‑volume histogram is not required to complete the planning process;  (ii) based on review and assessment by a radiation oncologist, the two‑dimensional planning process is not required to maximise the differential between target dose and normal tissue dose;  (iii) the target (which may include gross, clinical and planning targets as a composite structure or field border outline), as defined in the prescription, is rendered as a two‑dimensional structure as field borders or a volume;  (iv) organs at risk are delineated if required, and assessment of dose to these structures is derived from dose point calculations, rather than full calculation and inclusion in a dose‑volume histogram;  (v) dose calculations are calculated using a specialised algorithm, with prescription and plan details approved and recorded with the plan  Applicable once per course of treatment | 1,062.85 |
| 15906 | Megavoltage planning—level 2.1  Three‑dimensional radiation therapy simulation and dosimetry for treatment planning, without motion management, if:  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for three‑dimensional planning without consideration of motion management;  (ii) patient set‑up and immobilisation techniques are reproducible for treatment;  (iii) a high‑quality dataset is acquired in treatment position for the relevant region of interest to be planned and treated with image verification; and  (b) all of the following apply in relation to the dosimetry:  (i) the three‑dimensional planning process is required to calculate dose to three‑dimensional volume structures and requires a dose‑volume histogram to complete the planning process;  (ii) based on review and assessment by a radiation oncologist, the three‑dimensional planning process ~~(which must include multi‑leaf collimator‑based shaping to achieve target dose conformity and organs at risk avoidance or dose management or reduction)~~ is required to optimise the differential between target dose and normal tissue dose;  (iii) the planning target volume is rendered as a three‑dimensional structure on planning outputs (three‑dimensional plan review, three‑planar sections review or dose‑volume histogram);  (iv) organs at risk are delineated, and assessment of dose to these structures is derived from calculation and inclusion in a dose‑volume histogram  Applicable once per course of treatment | 1,638.70 |
| 15908 | Megavoltage planning—level 2.2  Three‑dimensional radiation therapy simulation and dosimetry for treatment planning with motion management, if:  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for complex three‑dimensional planning with consideration of motion management;  (ii) patient set‑up and immobilisation techniques are reproducible for treatment;  (iii) a high‑quality three‑dimensional or four‑dimensional image volume dataset is acquired in treatment position for the relevant region of interest to be planned and treated with image verification; and  (b) all of the following apply in relation to the dosimetry:  (i) the three‑dimensional planning process is required to calculate dose to three‑dimensional volume structures (which must include structures moving with physiologic processes) and requires a dose‑volume histogram to complete the planning process;  (ii) based on review and assessment by a radiation oncologist, the three‑dimensional planning process ~~(which must include multi‑leaf collimator‑based shaping to achieve target dose conformity and organs at risk avoidance or dose management or reduction)~~ is required to optimise the differential between target dose and normal tissue dose;  (iii) the planning target volume is rendered as a three‑dimensional structure on planning outputs (three‑dimensional plan review, three‑planar sections review or dose‑volume histogram);  (iv) organs at risk are delineated, and assessment of dose to these structures is derived from full calculation and inclusion in a dose‑volume histogram  Applicable once per course of treatment | 2,649.25 |
| 15910 | Megavoltage planning—level 3.1  Standard intensity modulated radiation therapy (IMRT) simulation and dosimetry for treatment planning, if:  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for single‑dose level IMRT planning without motion management;  (ii) patient set‑up and immobilisation techniques are suitable for image volume data acquisition and reproducible IMRT treatment;  (iii) a high‑quality three‑dimensional image volume dataset is acquired in treatment position for the relevant region of interest to be planned and treated with image verification; and  (b) all of the following apply in relation to the dosimetry:  (i) the IMRT planning process is required to calculate dose to a single‑dose level volume structure and requires a dose‑volume histogram to complete the planning process;  (ii) based on review and assessment by a radiation oncologist, the IMRT planning process optimises the differential between target dose, organs at risk and normal tissue dose;  (iii) all relevant gross tumour volumes, clinical target volumes, planning target volumes and organs at risk are rendered as volumes and nominated with planning dose objectives;  (iv) organs at risk are nominated as planning dose constraints;  (v) dose calculations and dose‑volume histograms are generated in an inverse planned process using a specialised algorithm, with prescription and plan details approved and recorded with the plan;  (vi) a three‑dimensional image volume dataset is used for the relevant region to be planned and treated with image verification  Applicable once per course of treatment | 4,142.70 |
| 15912 | Megavoltage re‑planning—level 3.1  Additional dosimetry plan for re‑planning of standard intensity modulated radiation therapy (IMRT) treatment, if:  (a) an initial treatment plan at a level that is equivalent to or higher than that described in item 15910 has been prepared; and  (b) treatment adjustments to the initial plan are inadequate to satisfy treatment protocol requirements  Applicable once per course of treatment | 2,071.35 |
| 15914 | Megavoltage planning—level 3.2  Complex intensity modulated radiation therapy (IMRT) simulation and dosimetry for treatment planning, if  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for multiple‑dose level IMRT planning or single‑dose level IMRT planning requiring motion management;  (ii) patient set‑up and immobilisation techniques are suitable for image volume data acquisition and reproducible IMRT treatment;  (iii) a high‑quality three‑dimensional or four‑dimensional volume dataset is acquired in treatment position for the relevant region of interest to be planned and treated with image verification; and  (b) all of the following apply in relation to the dosimetry:  (i) the IMRT planning process is required to calculate dose to multiple‑dose level volume structures or single‑dose level volume structures (including structures moving with physiologic processes or requiring precise positioning with respect to beam edges) and requires a dose‑volume histogram to complete the planning process;  (ii) based on review and assessment by a radiation oncologist, the IMRT planning process optimises the differential between target dose, organs at risk and normal tissue dose;  (iii) all relevant gross tumour targets, clinical target volumes, planning target volumes, internal target volumes and organs at risk are rendered and nominated with planning dose objectives;  (iv) organs at risk are nominated as planning dose constraints;  (v) dose calculations and dose‑volume histograms are generated in an inverse planned process using a specialised algorithm, with prescription and plan details approved and recorded with the plan;  (vi) a three‑dimensional or four‑dimensional image volume dataset is used for the relevant region to be planned and treated, with image verification for a multiple‑dose level IMRT planning or single‑dose level IMRT planning requiring motion management  Applicable once per course of treatment | 5,953.95 |
| 15916 | Megavoltage re‑planning—level 3.2  Additional dosimetry plan for re‑planning of complex intensity modulated radiation therapy (IMRT) treatment, if:  (a) an initial treatment plan at a level that is equivalent to or higher than that described in item 15914 has been prepared; and  (b) treatment adjustments to the initial plan are inadequate to satisfy treatment protocol requirements  Applicable once per course of treatment | 2,976.95 |
| 15918 | Megavoltage planning—level 4  Intracranial stereotactic radiation therapy (SRT) simulation and dosimetry for treatment planning, if:  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for multiple non‑coplanar, rotational or fixed beam stereotactic delivery;  (ii) precise personalised patient set‑up and immobilisation techniques are suitable for reliable imaging acquisition and reproducible SRT small‑field and ablative treatments;  (iii) a high‑quality three‑dimensional image volume dataset is acquired in treatment position for the intracranial lesions to be planned and treated and verified; and  (b) all of the following apply in relation to the dosimetry:  (i) the planning process is required to calculate dose to single or multiple target structures and requires a dose‑volume histogram to complete the planning process;  (ii) based on review and assessment by a radiation oncologist, the planning process maximises the differential between target dose, organs at risk and normal tissue dose;  (iii) all relevant gross tumour volumes, clinical target volumes, planning target volumes and organs at risk are rendered and nominated with planning dose objectives;  (iv) organs at risk are nominated as planning dose constraints;  (v) dose calculations and dose‑volume histograms are generated using a validated stereotactic‑type algorithm, with prescription and plan details approved and recorded with the plan  Applicable once per course of treatment | 6,676.00 |
| 15920 | Megavoltage planning—level 4  Stereotactic body radiation therapy (SBRT) simulation and dosimetry for treatment planning, if:  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for inverse planning with multiple non‑coplanar, rotational or fixed beam stereotactic delivery or intensity modulated radiation therapy (IMRT) stereotactic delivery;  (ii) personalised patient set‑up and immobilisation techniques are suitable for reliable imaging acquisition and reproducible, including techniques to minimise motion of organs at risk and targets;  (iii) small‑field and ablative treatment is used;  (iv) a high‑quality three‑dimensional or four‑dimensional image volume dataset is acquired in treatment position for the relevant region of interest to be planned, treated and verified (through daily planar or volumetric image guidance strategies); and  (b) all of the following apply in relation to the dosimetry:  (i) the planning process is required to calculate dose to single or multiple target structures and requires a dose‑volume histogram to complete the planning process;  (ii) based on review and assessment by a radiation oncologist, the planning process maximises the differential between target dose, organs at risk and normal tissue dose;  (iii) all relevant gross tumour volumes, clinical target volumes, planning target volumes and organs at risk are rendered and nominated with planning dose objectives;  (iv) organs at risk are nominated as planning dose constraints;  (v) dose calculations and dose‑volume histograms are generated using a validated stereotactic‑type algorithm, with prescription and plan details approved and recorded with the plan  Applicable once per course of treatment | 6,676.00 |
| 15922 | Megavoltage re‑planning—level 4  Additional dosimetry plan for re‑planning of intracranial stereotactic radiation therapy (SRT) or stereotactic body radiation therapy (SBRT) treatment, if:  (a) an initial treatment plan described in item 15918 or 15920 has been prepared; and  (b) treatment adjustments to the initial plan are inadequate to satisfy treatment protocol requirements  Applicable once per course of treatment | 3,338.05 |
| 15924 | Megavoltage planning—level 5  Specialised radiation therapy simulation and dosimetry for treatment planning, if both of the following apply in relation to the simulation:  (a) treatment set‑up and technique specifications are in preparation for a specialised case with general anaesthetic or sedation supervised by an anaesthetist;  (b) a high‑quality three‑dimensional or four‑dimensional image volume dataset is acquired in treatment position for the relevant region of interest to be planned and treated with image verification  Applicable once per course of treatment (Anaes.) | 7,046.30 |
| 15926 | Megavoltage planning—level 5  Specialised radiation therapy simulation and dosimetry for treatment planning, if:  (a) all of the following apply in relation to the simulation:  (i) treatment set‑up and technique specifications are in preparation for a specialised application such as total skin electron therapy (TSE) or total body irradiation (TBI);  (ii) reproducible personalised patient set‑up and immobilisation techniques are suitable to implement three‑dimensional radiation therapy, intensity modulated radiation therapy (IMRT) (including multiple non‑coplanar, rotational or fixed beam treatment delivery) or a specialised total body treatment delivery method;  (iii) a specialised dataset of anatomical dimensions is acquired in the treatment position for TSE or TBI; and  (b) all of the following apply in relation to the dosimetry:  (i) total TSE, TBI, IMRT or multiple non‑coplanar, rotational or fixed beam treatment is used;  (ii) the final dosimetry plan is validated by a radiation therapist and a medical physicist, using quality assurance processes;  (iii) the final dosimetry plan is approved, prior to treatment delivery, by a radiation oncologist  Applicable once per course of treatment | 7,046.30 |
| 15928 | Megavoltage re‑planning—level 5  Additional dosimetry plan for re‑planning of specialised radiation therapy if:  (a) an initial treatment plan described in 15924 or 15926 has been prepared; and  (b) treatment adjustments to the initial plan are inadequate to satisfy treatment protocol requirements  Applicable once per course of treatment (Anaes.) | 3,523.15 |

| **Megavoltage item number** | **Item descriptor** | **Fee** |
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| **Treatment items** | | |
| 15930 | Megavoltage treatment—level 1.1  Radiation therapy for simple, single‑field treatment (including electron beam treatments), if:  (a) the treatment does not use imaging for field setting; and  (b) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (c) the treatment is delivered with a one‑dimensional plan; and  (d) a two‑dimensional single‑field treatment delivery mode is utilised  ~~Applicable once per plan per day~~ | 91.25 |
| 15932 | Megavoltage treatment—level 1.2  Radiation therapy and image verification for simple treatment, with imaging for field setting, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) image‑guided radiation therapy (IGRT) imaging is used to implement a two‑dimensional plan, and  (c) two‑dimensional treatment is delivered; and  (d) image verification decisions and actions are documented in the patient’s record  ~~Applicable once per plan per day~~ | 113.65 |
| 15934 | Megavoltage treatment—level 2.1  Radiation therapy and image verification for three‑dimensional treatment, without motion management, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) image‑guided radiation therapy (IGRT) imaging is used to implement a standard three‑dimensional plan; and  (c) three‑dimensional treatment is delivered; and  (d) image verification decisions and actions are documented in the patient’s record  ~~Applicable once per plan per day~~ | 255.95 |
| 15936 | Megavoltage treatment—level 2.2  Radiation therapy and image verification for three‑dimensional treatment, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) image‑guided radiation therapy (IGRT) imaging is used to implement a complex three‑dimensional plan; and  (c) complex three‑dimensional treatment is delivered with management of motion; and  (d) image decisions and actions are documented in the patient’s record  ~~Applicable once per plan per day~~ | 278.40 |
| 15938 | Megavoltage treatment—level 3.1  Standard single‑dose level intensity modulated radiation therapy (IMRT) treatment and image verification, without motion management, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) image‑guided radiation therapy (IGRT) imaging is used to implement a standard IMRT plan at a level that is equivalent to or higher than that described in item 15910  ~~Applicable once per plan per day~~ | 278.40 |
| 15940 | Megavoltage treatment—level 3.2  Complex multiple‑dose level intensity modulated radiation therapy (IMRT) treatment, or single‑dose level IMRT treatment requiring motion management, and image verification, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) image‑guided radiation therapy (IGRT) imaging is used (with motion management functionality if required) to implement a complex IMRT plan at a level that is equivalent to or higher than that described in item 15914; and  (c) radiation field positioning requires accurate dose delivery to the target; and  (d) image decisions and actions are documented in the patient’s record  ~~Applicable once per plan per day~~ | 306.25 |
| 15942 | Megavoltage treatment—level 4  Intracranial stereotactic radiation therapy treatment and image verification, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) image‑guided radiation therapy (IGRT) or minimally invasive stereotactic frame localisation is used to implement an intracranial stereotactic treatment plan at a level that is equivalent to or higher than that described in item 15918; and  (c) radiation field positioning requires accurate dose delivery to the target; and  (d) image decisions and actions are documented in the patient’s record  Applicable once per day | 789.35 |
| 15944 | Megavoltage treatment—level 4  Stereotactic body radiation therapy (SBRT) treatment and image verification, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) image‑guided radiation therapy (IGRT) is used (with motion management functionality if required) to implement a stereotactic body radiation therapy plan at a level that is equivalent to or higher than that described in item 15920; and  (c) radiation field positioning requires accurate dose delivery to the target; and  (d) image decisions and actions are documented in the patient’s record  Applicable once per day | 789.35 |
| 15946 | Megavoltage treatment—level 5  Specialised radiation therapy treatment and verification, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) a specialised technique is used with general anaesthetic or sedation supervised by an anaesthetist  ~~Applicable once per plan per day~~ | 907.75 |
| 15948 | Megavoltage treatment—level 5  Specialised radiation therapy treatment and verification, if:  (a) the treatment is delivered using a device that is included in the Australian Register of Therapeutic Goods; and  (b) a specialised technique, such as total skin electron therapy (TSE) or total body irradiation (TBI), is used to implement a treatment plan described in item 15926; and  (c) image‑guided radiation therapy (IGRT) is used (with motion management functionality, if required) to implement:  (i) three‑dimensional radiation therapy; or  (ii) intensity modulated radiation therapy (IMRT) (including multiple non‑coplanar, rotational or fixed beam treatment); or  (iii) total skin electrons (TSE) where there is individualised treatment  ~~Applicable once per day~~ | 907.75 |

| **Megavoltage explanatory notes** | |  |
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| **TN.2.1** | **Meaning of megavoltage complexity levels**  ***Level 1.1 Items (Simple or Single Field)***  In items 15902 and 15930: Simple or single-field complexity external beam radiation therapy is localised, planned and delivered through a clinical mark-up process without the requirements of simulation, computer or volumetric dosimetry and beam modulation. Patient stabilisation is simple using standard devices. Determination of the treatment volume is by clinical assessment and mark-up with the prescribed dose identified on the surface or at depth. Single-field delivery via wide margins determined through the clinical assessment process will not require image verification. The final dosimetry plan is validated by a radiation therapist or medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to delivery.  ***Level 1.2 Items (Two-Dimensional Simple or Multiple Field)***  In items 15904 and 15932: Simple or multiple-field complexity external beam radiation therapy is localised through a process of either two-dimensional simulation ~~(single plain film views or CT or digitally reconstructed radiograph delineation)~~ or three-dimensional simulation ~~(plain film views or CT volumetric delineation)~~ from an appropriate imaging dataset to identify the treatment region. Patient stabilisation is simple using standard devices.  Planning is based on two‑dimensional planning processes with simple beam shaping but no modulation or inverse planning requirements, optimisation is not required on organs at risk. Multiple-field delivery via multileaf collimator (MLC) shaped beams requires verification. The final dosimetry plan is validated by a radiation therapist or medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to delivery.  ***Level 2.1 Items (Three-Dimensional without motion management)***  In items 15906 and 15934: Three-dimensional standard or multiple-field complexity external beam radiation therapy is localised through a process of three-dimensional simulation (plain film views or volumetric delineation) to identify the treatment region and organs at risk.  Planning is based on three‑dimensional planning processes with simple beam shaping ~~(multileaf collimators—MLCs)~~ and simple modulation (large-segment field in field, wedges, MLCs or tissue compensation) to deliver a conformal dose distribution and assessment of dose to organs at risk. Multiple-field delivery via MLC shaped beams requires image verification. Examples include three-dimensional planned spine treatments (single or opposed fields) breast tangents without target volumes definition, and image-based planning for electrons. The final dosimetry plan is validated by a radiation therapist or medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to delivery.  ***Level 2.2 Items (Three-Dimensional with motion management)***  In items 15908 and 15936: Three-dimensional complex or multiple-field complexity external beam radiation therapy is localised through a process of three or four-dimensional (three-dimensional volumetric delineation or four-dimensional volumetric delineation with consideration of tumour and organs at risk excursion) simulation to identify the treatment region and organs at risk ~~(including excursion of targets and organs at risk)~~. Patient stabilisation requires the use of devices to support positional reproducibility. Motion management includes four-dimensional CT, deep inspiration breath hold, deep expiration breath hold, use of manual compression and other methods ~~that~~to account for tumour movement.  Planning is based on three or four-dimensional planning processes with complex beam shaping ~~(multileaf collimators—MLCs)~~ and modulation (MLC or small-segment field in field) to deliver a conformal dose distribution and assessment and management of dose to organs at risk. Multiple-field delivery via MLC shaped beams requires daily image verification prior to treatment delivery. Consideration for re-planning is not required. The final dosimetry plan is validated by a radiation therapist or medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to delivery.  ***Level 3.1 Items (Standard IMRT Multiple Field)***  In items 15910 and 15938: Standard inverse planned intensity modulated radiation therapy (IMRT) to a single dose level prescription and without motion management is localised through a three-dimensional ~~(CT volumetric delineation) simulation~~ imaging dataset to identify clinical and planning targets, organs at risk and normal tissue.  Planning is based on delivery to a single-dose level target and includes optimisation of the dose based on assessment of organs at risk doses. This technique involves very sharp dose gradients adjacent to both targets and organs at risk, ~~of~~ increasing the consequences of any geometric uncertainty, making daily treatment image verification (Image-guided radiation therapy—IGRT) an essential component of quality IMRT. It is the tumour location, adjacent organs and dosimetry that define the appropriate role for IMRT and support an approach where the clinical circumstances, rather than specific diagnoses, are the most important determinants for using IMRT. Final dosimetry plan is validated by both the radiation therapist and medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to treatment delivery.  ***Level 3.2 Items (Complex IMRT Multiple Field)***  In items 15914 and 15940: Complex inverse planned intensity modulated radiation therapy (IMRT) to multiple-dose level prescription or IMRT with motion management is localised through three or four dimensional (volumetric imaging) to identify clinical and planning targets, organs at risk and normal tissue (and tumour and organs at risk excursion in the case of four-dimensional applications).  Planning is based on delivery to multiple-dose level targets or IMRT with motion management and includes optimisation of the dose based on assessment of organs at risk ~~doses~~. This technique involves very sharp dose gradients adjacent to both targets and organs at risk increasing the consequences of any geometric uncertainty, making daily treatment verification (Image-guided radiation therapy—IGRT) an essential component of quality IMRT. In the case of four-dimensional applications, treatment delivery utilises some form of motion management and further complicates the planning, delivery and quality assurance processes. Motion management includes four-dimensional volumetric imaging, deep inspiration breath hold, deep expiration breath hold, use of manual compression and other methods ~~that~~ to account for tumour movement. It is the tumour location, adjacent organs and dosimetry that define the appropriate role for IMRT and support an approach where the clinical circumstances, rather than specific diagnoses, are the most important determinants for using IMRT. Pre-treatment quality assurance validation will be required and consideration for re-planning is included. Final dosimetry plan is validated by both the radiation therapist and medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to treatment delivery. Small-field fractionated treatment strategies (using either an IMRT or multiple, non-coplanar, rotational or fixed beam delivery) are included in this complexity level.  ***Level 4 Items (Intracranial Stereotactic Radiation Therapy)***  In items 15918 and 15942: Stereotactic radiation therapy delivered using a Therapeutic Goods Administration approved device using specifically calibrated small fields. Dedicated and customised patient positioning, immobilisation and ~~multi-modality image based targeted~~ imaging for identification of the treatment volume, surrounding organs at risk and normal tissue. Where relevant formal structured assessment of motion and patient suitability for complex and lengthy delivery may include fixed head frame. Lengthy treatment sessions may require patient education to support positional and physiological control requirements. Dosimetry delivers small-field collimation and shaping of the dose to complex targets. Pre-treatment quality assurance validation will be required and consideration for re-planning is included. Very tight margins and steep dose gradients mandates the use of daily ~~treatment verification~~ IGRT. Final dosimetry plan is validated by both the appropriately qualified radiation therapist and medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to treatment delivery.  ***Level 4 Items (Stereotactic Body Radiation Therapy)***  In items 15920 and 15944: Stereotactic body external beam radiation therapy with or without motion management is localised through a three or four-dimensional ~~(three-dimensional volumetric delineation or four-dimensional volumetric delineation with consideration of tumour and organs at risk excursion)~~ simulation to identify clinical and planning targets, organs at risk and normal tissue (and excursion of tumour and organs at risk ~~excursion~~ in the case of four-dimensional applications). Requires dedicated and personalised patient positioning and immobilisation and multi-modality image based targeted identification of the treatment volume, surrounding organs at risk and normal tissue. Lengthy treatment sessions may require patient education to support positional and physiological control requirements. Motion management includes four-dimensional CT, deep inspiration breath hold, deep expiration breath hold, use of manual compression and other methods ~~that~~ to account for tumour movement.  Stereotactic body radiation therapy (SBRT) and stereotactic ablative radiation therapy (SABR) are used interchangeably and are defined as high precision, image-guided radiation therapy (IGRT) dose delivery with highly conformal dose and steep dose gradients, with larger doses per fraction, fewer treatments as determined by standard clinical protocols, eg. 5 for prostate treatments or 8 for central lung treatments and ~~where there is~~ including intrafraction motion management where applicable.  For stereotactic treatments this requires on the first day of treatment, a radiation oncologist or trained delegate with documented competencies in stereotactic treatments must be present at the start of the treatment fraction (prior to irradiation) to verify the integrity of the patient set-up at the treatment machine, patient repositioning using image guidance, and directly manage any clinical issues. For subsequent fractions in the same course, the radiation oncologist must be immediately available for critical decision making. Patient specific pre-treatment quality assurance validation may be required and consideration for re-planning and is included. Very tight margins and steep dose gradients mandates the use of daily ~~image verification of treatment~~IGRT. Final dosimetry plan is validated by both the appropriately qualified radiation therapist and medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to delivery.  ***Level 5 Items (Specialised)***  In items 15924, 15926, 15946 and 15948: Patient acuity requires multidisciplinary medical and technical support during the simulation and treatment processes (for example, general anaesthetic for complex cases or monitoring for patients receiving Total Body Irradiation). Complex dosimetry requirements are driven by large field or large volume requirements in total skin electron therapy (TSE) or total body irradiation (TBI) cases and highly personalised dosimetry requirements with younger paediatric patients, and patients requiring general anaesthetic or supervised sedation. Clinical and Technical complexity requires prolonged, complex multidisciplinary team involvement and direct involvement in the treatment delivery process; including in vivo dosimetry. Patient specific complex quality assurance validation pre-treatment and during treatment is required and consideration for re-planning is included. Final dosimetry plan is validated by both the radiation therapist and medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to delivery.  **Radiation therapy treatment and replanning to correspond with planning**  The complexity level of the treatment regimen must be appropriate for the plan (or replan). Accordingly, treatment items must not be billed at higher levels than the complexity level associated with planning (or replanning) item for that site.  Replanning and treatment can be billed however at a higher sub-level within a band. For example, it may be appropriate to use level 3.2 treatment for a site planned at Level 3.1, but billing for Level 3 treatment items following Level 2 planning will not be processed.  Where planning/replanning/treatment is for multiple sites, each site must be clearly identified and differentiated by name in billing notes. [Refer to *Information Sheet on Multiple Site Billing*] |  |
| **TN.2.2** | **Megavoltage planning**  **Megavoltage radiation therapy planning – multiple sites (items 15902 – 15910, 15914, 15920, 15924, 15926)**  One plan only will attract Medicare benefits in a course of treatment. Benefits are payable however for further planning items where planning is undertaken for a synchronous primary or different tumour site to that (or those) specified in the original prescription by the radiation oncologist. Sites must be uniquely identified in billing notes. [Refer to *Information Sheet on Multiple Site Billing*]  For intracranial stereotactic planning (item **15918**), ‘intracranial’ is considered to be a single site.  **Megavoltage radiation therapy re-planning (items 15912, 15916, 15922, 15928)**  Only one ~~additional~~ dosimetry re-plan is payable during the treatment course (at 50% of the Schedule Fee for the associated item) and the clinical need for re-planning must be consistent with the guidance provided in the item descriptor and clearly documented in the patient’s record.  ~~Re-planning items 15912, 15916, 15922 and 15928 cannot be claimed in association with any other service under this subgroup except for the item descriptor that relates.~~  **Protocols for documenting quality assurance processes for treatment plans**  Treatment plans should be produced using quality assurance processes to ensure, where appropriate:  (a)    Data within the oncology information system is accurate; and  (b)    Data transfer to the Oncology Information System has been completed without any loss of data integrity; and  (c)    The plan is deliverable without loss of dosimetric accuracy on the radiation therapy apparatus which will be used for clinical delivery (including particular consideration given to geometric accuracy where tight margins or steep dose gradient are employed); and  (d)    Motion management strategies and accuracy of delivery have been appropriately assessed; and  (e)    The dose calculation of the treatment plan (including on the patient planning images) is accurate; and  (f)     The accuracy of any image fusions performed; and  (g)    The final treatment plan is validated by a radiation therapist or medical physicist, using quality assurance processes, with the plan approved by the radiation oncologist prior to delivery.  The quality assurance processes should be established, maintained and performed by radiation therapists and medical physicists and should be formally documented.  **Protocols for documenting quality assurance processes for treatment re-plans**  In addition to protocols for documenting quality assurance processes for treatment plans, treatment re-plans can only be performed if:  (a)    An initial treatment plan has been prepared in accordance with an item descriptor of the same complexity or higher; and  (b)    Treatment adjustments to the original plan are inadequate to satisfy treatment protocol requirements.  **Image Fusion**  Where appropriate, when determining the target volumes and organs at risk for treatment, relevant multi-modality imaging should be used to delineate targets and organs at risk. |  |
| **TN.2.3** | **Megavoltage treatment**  **Treatment of multiple sites at one attendance (~~15930 to 15948~~ 15930 - 15940, 15946, 15948)**  Where patients are being treated with radiation therapy to multiple separate sites of disease at one attendance, each treatment site must be documented in a separately prescribed plan. Sites must be clearly identified and differentiated with a unique name in billing notes. [Refer to *Information Sheet on Multiple Site Billing*]  Intracranial stereotactic radiation therapy (item 15942) is applicable once per day.  Stereotactic body radiation therapy (item 15944) is applicable once per day. Treatments are often delivered on non-consecutive days. When multiple plans are to be delivered in the same time frame, treatments to each site can be billed if delivered on different days.  **Definition of multiple treatment sites**  1.       locoregional and/or distant disease under one diagnosis treated under multiple separate prescription plans, or  2.       synchronous primaries with each treatment prescribed under separate diagnosis.  **Bidaily treatments of the same site (15930 - 15940, 15946, 15948)**  Where a patient is required to have two treatments to the same site using the same treatment plan on the same day, the second treatment is only payable where the treatments are separated by an appropriate time interval. There must be clinical justification documented in the patient’s medical record. Examples include where patients are being treated with accelerated radiation therapy protocols or to compensate for missed treatment days.  For the second treatment on the same day, billing notes should include the words “bi-daily treatment”.  **Treatments requiring general anaesthetic**  Items 15918 and 15948 apply to all patients requiring general anaesthetic or sedation supervised by an anaesthetist for treatment delivery. For patients who do not require general anaesthetic or supervised sedation then other appropriate items should be used.  **Radiation oncologist attendance**  For all treatments, a radiation oncologist should be available to physically review patients when required.  For complex treatments, a radiation oncologist should be immediately available for critical decision making.  For highly complex treatments, such as stereotactic treatments, a radiation oncologist or trained delegate with documented competencies in stereotactic treatments should be present at the start of the treatment fraction (prior to irradiation) to verify the integrity of the patient set-up at the treatment machine, patient repositioning using image guidance, and directly manage any clinical issues. ~~For subsequent fractions in the same course~~ If delegated to a competent non-radiation oncologist, a competent radiation oncologist must be immediately available for critical decision making.  **Motion management**  Motion management is the use of additional technology to ensure the dose to the target is not compromised by physiological motion or the dose to a critical organ-at-risk adjacent to the target is minimised. This includes:  (a)    Reducing physiological motion (for example breath hold); or  (b)    Quantifying physiological motion (for example 4D-CT or 4D-CBCT); or  (c) Using technology to detect motion and actively control treatment or simulation. |  |

# **Subgroup 3 - Kilovoltage**

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| **Kilovoltage item number** | **Item descriptor** | **Fee** |
| **Planning** | | |
| 15950 | Kilovoltage planning  Simple complexity single‑field radiation therapy simulation and dosimetry for treatment planning without imaging for field setting, if:  (a) both of the following apply in relation to the simulation:  (i) localisation is based on clinical mark‑up and image‑based simulation is not required;  (ii) patient set‑up and immobilisation techniques are suitable for two‑dimensional radiation therapy treatment, with wide margins and allowance for movement; and  (b) all of the following apply in relation to the dosimetry:  (i) the planning process is required to deliver a prescribed dose to a point, either at depth or on the surface of the patient;  (ii) based on review and assessment by a radiation oncologist, the planning process does not require the differential of dose between target, organs at risk and normal tissue dose;  (iii) delineation of structures is not possible or required, and field borders will delineate the treatment volume;  (iv) doses are calculated in reference to a point, either at depth or on the surface of the patient, from tables, charts or data from a treatment planning system  Applicable once per course of treatment | 203.70 |
| **Treatment** | | |
| 15952 | Delivery of kilovoltage radiation therapy (50 kV to 500 kV range) to one anatomical site (excluding orbital structures where there is placement of an internal eye shield)~~, other than a service to which item 15954 applies~~ | 54.85 |
| 15954 | Delivery of kilovoltage radiation therapy (50 kV to 500 kV range) to ~~2 or more~~ each additional anatomical site~~s~~ following delivery to one anatomical site treated under item 15952 (excluding orbital structures where there is placement of an internal eye shield). | ~~Amount under clause 5.3.1~~  22.00 |
| 15956 | Delivery of kilovoltage radiation therapy (50 kV to 500 kV range) to orbital structures where there is placement of an internal eye shield | 67.45 |

| **Kilovoltage Explanatory Notes** | |  |
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| **TN.2.4** | **Kilovoltage planning and treatment**  **Planning and treatment of multiple sites (items 15950, 15952, 15954)**  Where patients are being treated with radiation therapy to multiple separate sites of disease at one attendance, each treatment site must be documented in a separately prescribed plan. Each site must be clearly identified and differentiated with a unique name in billing notes. [Refer to *Information Sheet on Multiple Site Billing*]  **Kilovoltage treatment (15952, 15954)**  15952 is billed when one site only is being treated at the attendance.  Treatment to 2 or more sites during the same attendance should be billed as follows:   * 15952 for the first site, and * 15954 for each additional site   **Planning validation**  The final treatment plan is validated by a radiation therapist or medical physicist, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery. |  |

# **Subgroup 4 - Brachytherapy**

| **Brachytherapy item number** | | **Item descriptor** | **Fee** |
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| **Construction & Insertion** | | | |
| 15958 | | Simple placement or insertion of any of the following kinds of brachytherapy device, without image guidance:  (a) intracavitary vaginal cylinder, vaginal ovoids, vaginal ring or vaginal mould;  (b) surface mould or applicator, with catheters fixed to or embedded into mould or applicator, on external surface of body;  including the removal of applicators, catheters or needles | 106.40 |
| 15960 | | Complex construction and manufacture of a personalised brachytherapy applicator or mould, derived from three‑dimensional image volume datasets, ~~to treat intracavitary, intraoral or intranasal site,~~ including the removal of applicators, catheters or needles | 146.80 |
| 15962 | | Complex insertion of any of the following kinds of brachytherapy device, with image guidance and if a radiation oncologist is in attendance at the initiation of the service:  (a) intrauterine tubes with or without ovoids, ring or cylinder;  (b) endocavity applicators;  (c) intraluminal catheters for treatment of bronchus, trachea, oesophagus, nasopharynx, bile duct;  (d) endovascular catheters for treatment of vessels;  including the removal of applicators, catheters or needles  (Anaes.) | 319.15 |
| 15964 | | Complex insertion and removal of hybrid intracavitary and interstitial brachytherapy applicators, or intracavitary and multi‑catheter applicators, with image guidance and if a radiation oncologist is in attendance at the initiation of the service  (Anaes.) | 425.60 |
| 15966 | | Complex insertion of any of the following kinds of interstitial brachytherapy implants not requiring surgical exposure, with image guidance, and if a radiation oncologist is in attendance during the service:  (a) catheters or needles for temporary implants;  (b) radioactive sources for permanent implants;  (c) breast applicators, single channel and multi‑channel strut devices;  including the removal of applicators, catheters or needles (Anaes.) | 531.95 |
| 15968 | | Complex insertion of any of the following interstitial brachytherapy implants requiring surgical exposure (other than a service to which item 15900 applies), if a radiation oncologist is in attendance at the initiation of the service:  (a) catheters, needles or applicators to a region requiring surgical exposure;  (b) radioactive sources for permanent implants;  (c) surface moulds during intraoperative brachytherapy;  (d) plastic catheters or stainless steel needles, requiring surgical exposure;  including implantation and removal of applicators, catheters or needles (Anaes.) | 833.80 |
| **Dosimetry & Planning** | | | |
| 15970 | | Simple level dosimetry for brachytherapy plans prescribed to surface or depth from catheter and library plans, if:  (a) the planning process is required to deliver a prescribed dose to a three‑dimensional volume, and relative to a single line or multiple channel delivery applicator; and  (b) the planning process does not require the differential of dose between the target, organs at risk and normal tissue dose; and  (c) delineation of structures is not required; and  (d) dose calculations are performed in reference to the surface or a point at depth (two‑dimensional plan) from tables, charts or data from a treatment planning system library plan  ~~Applicable once per course of treatment~~ | 138.35 |
| 15972 | | Simple level dosimetry re‑planning of an initial brachytherapy plan described in item 15970 if treatment adjustments to that initial plan are inadequate to satisfy treatment protocol requirements  ~~Applicable once per course of treatment~~ | 69.20 |
| 15974 | | Intermediate level dosimetry calculated on a volumetric dataset for intracavitary or intraluminal or endocavity applicators, for brachytherapy plans that have three‑dimensional image datasets acquired as part of simulation, if:  (a) the planning process is required to deliver the prescribed dose to a three‑dimensional volume, and relative to multiple line for channel delivery applicators (excluding interstitial catheters and needles and multi‑catheter devices); and  (b) based on review and assessment by a radiation oncologist, the planning process requires the differential of dose between target, organs at risk and normal tissue dose using avoidance strategies (which include placement of sources and/or dwell‑times or tissue packing); and  (c) delineation of structures is required as part of the planning process to produce a dose‑volume histogram integral to the avoidance strategies; and  (d) dose calculations are performed on a personalised basis, which must include three‑dimensional dose calculation to target and organ‑at‑risk volumes; and  (e) dose calculations and the dose‑volume histogram are approved and recorded with the plan  ~~Applicable once per course of treatment~~ | 927.75 |
| 15976 | | Intermediate level dosimetry re‑planning of an initial brachytherapy plan described in item 15974 if treatment adjustments to that initial plan are inadequate to satisfy treatment protocol requirements  ~~Applicable once per course of treatment~~ | 463.90 |
| 15978 | | Complex level dosimetry for brachytherapy plans that contain multiple needles, catheters or radiation sources, calculated on the three‑dimensional volumetric dataset, if:  (a) the planning process is required to deliver a prescribed dose to a target volume relative to multiple channel delivery applicators, needles or catheters or radiation sources; and  (b) based on review and assessment by a radiation oncologist, the planning process requires the differential of doses between the target, organs at risk and normal tissue dose using avoidance strategies (which include the placement of sources and/or dwell times or tissue packing; and  (c) delineation of structures is required as part of the planning process, in order to produce a dose‑volume histogram to review and assess the plan; and  (d) dose calculations are performed on a personalised basis, which must include three‑dimensional dose calculation to target and organ at risk volumes; and  (e) dose calculations and the dose‑volume histogram are approved and recorded with the plan  ~~Applicable once per course of treatment~~ | 1,078.10 |
| 15980 | | Complex level dosimetry re‑planning of an initial brachytherapy plan described in item 15978 if treatment adjustments to the initial plan are inadequate to satisfy treatment protocol requirements  ~~Applicable once per course of treatment~~ | 539.10 |
| **Treatment & Verification** | | | |
| 15982 | Brachytherapy treatment, if:  (a) the service is performed by radiation therapists and medical physicists; and  (b) a radiation oncologist is in attendance during the service; and  (c) the treatment is to implement a brachytherapy treatment plan described in any of items 15970, 15972, 15974, 15976, 15978 and 15980 | | 404.25 |
| 15984 | Verification of position of brachytherapy applicators, needles, catheters or radioactive sources, if:  (a) a two‑dimensional or three‑dimensional volumetric image set, or a validated in‑vivo dosimetry measurement, is required to facilitate an adjustment to the applicators, needles, catheters or dosimetry plan; and  (b) decisions using the acquired images are based on action algorithms and enacted immediately prior to, or during, treatment, where treatment is preceded by manipulation or adjustment of delivery applicator or adjustment of the dosimetry plan; and  (c) the service is associated with a service to which any of the following items apply:  (i) items 15958 to 15968;  (ii) item 15982 | | 148.95 |

| **Brachytherapy Explanatory Notes** | |  |
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| **TN.2.5** | **Brachytherapy items 15958-15984**  **~~Course of brachytherapy treatment – items 15958-15984~~**  ~~For each course of treatment there may be multiple applicator insertions. Each insertion is considered a new attendance (or episode of care). For each attendance there may be a claim for items 15958-15984, including:~~  **Multiple services per attendance**  For each attendance multiple services may be delivered, including:  (a)     insertion of the applicator;  (b)     simulation and dosimetry;  (c)     treatment;  (d)     verification; and  (e)     re-planning, if required.  Final dosimetry plans must be independently validated and documented by ~~both the~~ two qualified staff (radiation therapist ~~and~~or medical physicist), using quality assurance processes, with the plan approved by the radiation oncologist prior to the delivery, which must include ensuring data transfer is acceptable and validation checks are completed.  **Multi-disciplinary team involvement in applicator insertion – Items 15958-15968**  Multi-disciplinary team involvement may be required for items relating to applicator insertion (Items 15958-15968). This may include a:  (a)     Gynaecological oncologist; or  (b)     Urologist; or  (c)     Breast surgeon; or  (d)     Thoracic surgeon; or  (e)     Vascular surgeon; or  (f)      Gastro-intestinal surgeon; or  (g)     Plastic surgeon; or  (h)     General surgeon; or  (i)       Interventional radiologist; or  (j)       Ophthalmic surgeon.  **~~Brachytherapy re-planning – Items 15972, 15976 and 15980~~**  ~~Only one additional dosimetry plan (for re-planning) is payable under items 15972, 15976 and 15980 during the treatment course (at 50% of the Schedule Fee for those items), when treatment adjustments are inadequate to satisfy treatment protocol requirements.~~  ~~Re-planning may involve simulation (re-scanning the patient) and/or dosimetry (re-calculating dose) and verification. The clinical need for re-planning must be consistent with the guidance provided in this explanatory note and clearly documented in the patient’s record.~~  **Brachytherapy examples**  15962 – an example of an endocavity applicator could be a single channel rectal tube  15964 - an example of a hybrid intracavitary and interstitial or multi-catheter applicators, could be a multi-channel cylinder for vaginal or rectal treatment.  15968 - radioactive sources for permanent implants, for example lung.  15970 – Examples of simple level dosimetry plans prescribed to surface or depth from catheter and library plans, could include:  (a) intracavitary vaginal vault with cylinder or ovoids or ring; or  (b) intracavitary cervix 1, 2 or 3 channels; or  (c) intraluminal single lines, for example, for treatment of carcinoma of the bronchus.  15974 - Intermediate level dosimetry is for plans that have three-dimensional image datasets acquired as part of simulation, and could include any of the following:  (a) intracavitary intrauterine tubes and vaginal ovoids (T&O); or  (b) intracavitary intrauterine tubes and vaginal ring (T&R); or  (c) intracavitary intrauterine tubes and vaginal cylinder (T&Cyl); or  (d) intracavitary vaginal cylinder; or  (e) intracavitary vaginal mould; or  (f) Intracavity vaginal ovoids; or  (g) endocavity: single catheter balloon, single channel applicator; or  (h) intraluminal brachytherapy; or  (i) endovascular brachytherapy; or  (j) surface (simple mould) brachytherapy.  15978 - Complex level dosimetry is for plans that contain multiple needles or catheters or radiation sources, for example:  (a) hybrid intracavitary and interstitial applicators using:  i. intrauterine tubes and vaginal ovoids (T&O) with needles; or  ii. intrauterine tube and vaginal ring (T&R) with needles; or  iii. intrauterine tubes and vaginal multichannel cylinder (T & VMC); or  (b) vaginal multichannel cylinder (VMC); or  (c) endocavity brachytherapy using a multi-catheter strut device or rectal multi-catheter device; or  (d) interstitial brachytherapy, including anatomical sites such as vagina, prostate, breast, soft tissue; or  surface brachytherapy, including complex circumferential moulds or moulds with undulating or uneven contours. | TN.2.5 now includes TN.2.7 & 2.9 |
| **TN.2.6** | **Low dose rate brachytherapy – Item 15966**  Low dose rate brachytherapy prostate implants must be performed at an approved site in association with a urologist.  Item 15966 may be claimed for the implantation of low dose rate brachytherapy prostate implants when the service is performed at an approved site in association with a urologist. A radiation oncologist must be present in person in addition to the urologist at the time of the service. |  |