

In a study of colorectal cancer by Van Cutsem et al. (33), the list of endpoints included objective response, where this was classed as a secondary endpoint:

The primary end point was progression-free survival time, defined as the time from randomization to disease progression or death from any cause within 60 days after the last tumor assessment or after randomization. Secondary end points included the overall survival time, the ... **complete response or partial response**, defined as a response persisting for at least 28 days.

In a study of lung cancer, Shepherd et al. (34) included a list of primary endpoints and secondary endpoints:

The primary end point was overall survival. Secondary end points included progression-free survival, **overall response rate (complete and partial)**, duration of response, toxic effects, and quality of life. Responses were assessed with the use of the Response Evaluation Criteria in Solid Tumors (RECIST) criteria.

In a study of cancer of the head and neck, Vermorken et al. (35) provided an extensive list of endpoints, where the secondary endpoints included objective response:

The primary end point was overall survival, defined as the time from randomization to death. Secondary end points were progression-free survival (the time from randomization to the first radiologic confirmation of disease progression, or death from any cause within 60 days after the last assessment or randomization, whichever came first) ... **a complete**

response, a partial response, or stable disease), the time to treatment failure (the time from randomization until the date of the first occurrence of one of the events specified in the protocol as constituting treatment failure).

Now, let us turn to the actual RECIST criteria. The RECIST criteria include the following subsets (36):

1. Complete response (CR): Disappearance of all target lesions.
2. Partial response (PR): At least a 30% decrease in the sum of diameters of target lesions, taking as reference the baseline sum diameters.
3. Progressive disease (PD): At least a 20% increase in the sum of diameters of target lesions, taking as reference the smallest sum on study (this includes the baseline sum if that is the smallest on study). In addition to the relative increase of 20%, the sum must also demonstrate an absolute increase of at least 5 mm. The appearance of one or more new lesions is also considered progression.
4. Stable disease (SD): Neither sufficient shrinkage to qualify for PR nor sufficient increase to qualify for PD, taking as reference the smallest sum diameters while on study.

b. Objective Response—Demetri's Example of PR

The clinical trial of Demetri et al. (37) concerned gastrointestinal stromal tumors (GIST).

³³Van Cutsem E, Köhne CH, Hitre E, et al. Cetuximab and chemotherapy as initial treatment for metastatic colorectal cancer. *New Engl. J. Med.* 2009;360:1408–17.

³⁴Shepherd FA, Rodrigues Pereira J, Ciuleanu T, et al. Erlotinib in previously treated non-small-cell lung cancer. *New Engl. J. Med.* 2005;353:123–32.

³⁵Vermorken JB, Mesia R, Rivera F, et al. Platinum-based chemotherapy plus cetuximab in head and neck cancer. *New Engl. J. Med.* 2008;359:1116–27.

³⁶Eisenhauer EA, Therasse P, Bogaerts J, et al. New response evaluation criteria in solid tumours: revised RECIST guideline (version 1.1). *Eur. J. Cancer* 2009;45:228–47.

³⁷Demetri GD, von Mehren M, Blanke CD, et al. Efficacy and safety of imatinib mesylate in advanced gastrointestinal stromal tumors. *New Engl. J. Med.* 2002;347:472–80.