The requirement to decrease dose levels to healthy tissue during the course of radiation therapy leads naturally to questions of the most uniform spreading of port directions that converge on the tumor inside patient body. The most isotropic distribution of radiation ports should lead to minimization of beam overlaps outside of the tumor volume and result, provided no other considerations are taken into account, in the most favorable dose distributions. The main focus of this work is the evaluation of the impact of different measures of uniformity on separation of beam directions (or separation of points on the unit sphere). We emphasize comparisons between (1) maximization of the minimum separation between $2N$ (collinearily locked) closest points on the sphere and (2) the maximal compactification of the division of the sphere into closest neighborhoods of $2N$ points. In particular, we observe that the *average* of the minimum separation between closest points on the sphere is the same for $2N=12$ and $2N=10$ while maximal compactification of the division of the sphere into closest neighborhoods increases for $2N=12$ points in comparison to the case of $2N=10$ points. Finally, the example of the solution for isotropic case of points distribution at vertices of dodecahedron ($2N=20$) (the case not discussed before in the context of radiotherapy applications) is analyzed in detail. In this example, we stress formulas for gantry and couch rotations that allow execution of these isotropic treatments in the clinic.