

Arthritis Foundation Position Statement on Unproven Stem Cell Interventions

The Arthritis Foundation condemns the administration of unproven stem cell-based interventions outside of the context of clinical research or medical innovation compliant with provisions of innovative care, guidelines of the International Society for Stem Cell Research (ISSCR) Clinical Research Translation Guidance and relevant laws and regulations, particularly when it is performed as a business activity. Scientists and clinicians should not participate in such activities as a matter of professional ethics. For the vast majority of medical conditions, such as types of arthritis and rheumatic conditions, for which unproven “stem cell therapies” are currently being marketed, there is insufficient evidence of safety and efficacy to justify routine or commercial use. Serious adverse events after such interventions have been reported and the long-term safety of most stem cell-based interventions remains undetermined. The premature commercialization of unproven stem cell interventions inaccurately marketed as containing or acting on stem cells, not only puts patients at risk but also represents one of the most serious threats to the stem cell research community, as it may jeopardize the reputation of the field and cause confusion about the actual state of scientific and clinical development. Government authorities and professional organizations are strongly encouraged to establish and strictly enforce regulations governing the introduction of stem cell-based medical interventions into commercial use.

Provision of Innovative Care

Stem cells as potential therapeutics for arthritis is indeed a very exciting field. However, it is extremely important that the cells be characterized very carefully, that cell processing standards be refined and followed, that the cells are tested in proper clinical trial settings with extensive follow-up and long-term monitoring, and that we truly identify the benefit associated with different types of stem cells at the various stages of arthritis disease and for which patient.

Clinician-scientists who provide unproven stem cell-based interventions to at most a very small number of patients outside the context of a formal clinical trial are encouraged to follow the highly restrictive provisions outlined below:

- a. There is a written plan for the procedure that includes:
 - i. Scientific rationale and justification explaining why the procedure has a reasonable chance of success, including any preclinical evidence of proof-of-principle for efficacy and safety.
 - ii. Explanation of why the proposed stem cell-based intervention should be attempted compared to existing treatments.
 - iii. Full characterization of the types of cells being transplanted and their characteristics (provide link to listing).
 - iv. Description of how the cells will be administered, including adjuvant drugs, agents, and surgical procedures.
 - v. Plan for clinical follow-up and data collection to assess the effectiveness and adverse effects of the cell therapy.
 - vi. Plan for sharing data & results with patients in an understandable context with clear explanation of how it may modify their current and future care plan.
- b. The written plan is approved through a peer review process by appropriate experts who have no vested interest in the proposed procedure.
- c. The patient is not eligible for an existing stem cell-based trial for this indication.
- d. The clinical and administrative leadership of the healthcare institution supports the decision to attempt the medical innovation and the institution is held accountable for the innovative procedure.
- e. All personnel have appropriate qualifications and the institution where the procedure will be carried out has appropriate facilities and processes of peer review and clinical quality control monitoring.
- f. Voluntary informed consent is provided by patients who appreciate that the intervention is unproven and who demonstrate their understanding of the risks and possible benefits of the procedure (provide link to consent process plan as well as clinical trial pt education).
- g. There is an action plan for adverse events that includes timely and adequate medical care and if necessary psychological support services.
- h. Insurance coverage or other appropriate financial or medical resources are provided to patients to cover any complications arising from the procedure.
- i. There is a commitment by clinician-scientists to use their experience with individual patients to contribute to generalizable knowledge. This includes:
 - i. Ascertaining outcomes in a systematic and objective manner.
 - ii. A plan for communicating outcomes, including negative outcomes and adverse events, to the scientific community to enable critical review (for example, as presentations at professional society meetings or publications in peer-reviewed journals).
 - iii. Moving to a formal clinical trial in a timely manner after experience with at most a few patients.

Not following such standards may exploit the hopes of patients, undermine public trust in stem cell research, and unnecessarily delay rigorous clinical trials. Strict application of the above criteria to many such clinical interventions offered outside of a formal clinical trial will identify significant shortcomings that should call into question the legitimacy of the purported attempts at medical innovation.