Today, leading worldwide chefs are competing to be the most innovative. Most of them look closely at scientific developments and even sometimes work directly with scientists to help create new textures, shapes and tastes. But this does not just concern Haute Cuisine: science and modern techniques also provide inspiration for innovative practices in collective catering, for instance to master the texture of food served to the elderly in hospital or nursing homes.

There is an increased prevalence of using modified texture foods (MTF), due to the longer survival of those who suffer from degenerative diseases that affect chewing and swallowing. The modification of food texture and liquid thickness has become a cornerstone of dysphagia management worldwide, as it is important for the whole strategy to adequately nourish and hydrate individuals.

The production of MTF involves the mechanical alteration of the consistency of the original food so that it is easier to consume: foods are chopped, minced, mashed or blended to compensate for chewing difficulties or fatigue and to improve swallowing safety; liquids are thickened to avoid aspiration of material into the airway and improve transit to the oesophagus. While the control of texture is not such a technical challenge in itself (numerous mechanical tools and texturizing agents exist that help to obtain the desired texture), a bigger issue is to preserve sufficient nutritional and sensory quality to minimize the potential effect of manipulating the food.

Food needs to be of an appropriate texture, particle size and moistness for safe and comfortable swallowing. For moist food (e.g. cooked vegetables and fruits), a thickener will often be added during mechanical treatment to limit fluid loss; conversely, a liquid (e.g. water, broth or milk) will be added to foods that naturally contain less fluid (e.g. meats and cakes). Of course, both the nutritional variability (due to overall dilution of the nutrients and/or changes in their bio-accessibility) and the moisture content (as food is a leading source of water for persons with dysphagia) have to be carefully considered during this process. To improve nutritional intake (regarding both energy and macro/micro-nutrients), products are usually enriched with various constituents (e.g. milk powder, egg proteins, carbohydrate-based thickeners and enriched infant cereal).

In addition to a reduction of the texture (potentially removing part of the pleasurable experience of chewing and manipulating food in the mouth), visual appeal of MTF is often a concern, since appearance also influences consumption and thus, nutrient intake. Therefore, improving the nutritional quality of MTF obviously goes in tandem with the improvement of its palatability (texture, taste and appearance): there is indeed no point in improving something the patient won’t eat at the end!

I show here some examples of preparations made for elderly people in nursing home and hospitals, using techniques/recipes mainly inspired by molecular cooking, in order to obtain a desired taste and appearance and make the eating experience as enjoyable and nutritionally beneficial as possible (Figures 112.1 and 112.2). These dishes were prepared thanks to a collaboration with Julien Garnier (SENES SOLUTIONS, http://senes.org) and published monthly in a professional journal (www.edp-nutrition.fr/parutions/nutrition-infos-collectivites) in which recipes, along with their scientific explanation and nutritional value calculation, were provided to encourage their reproduction by chefs working in catering for the elderly. Here, the idea is not to produce “fancy” dishes, as one would expect in nice restaurants, but more basically, to use modern texturizing agents to transform liquids made from mixed ingredients into food whose shape either (1) reproduces “real” food, therefore enhancing its appeal compared with a puree (Figure 112.1), or (2) enables customers to grasp the food with their hands (Figure 112.2).

There are still many solutions required in order to improve the lives of elderly people; diet is a big part of this, which deserves the best efforts of the best chefs!
FIGURE 112.1  Dishes prepared for elderly people using texturizing agents (alginate, agar, xanthan, egg white proteins, starch …) to reproduce “real” shapes, as in a pot au feu (a), roast veal slices with vegetable puree (b), beetroot salad (c) or tomato salad (d).

(Pictures courtesy of Julien Garnier – ©SENES SOLUTIONS)

FIGURE 112.2  Various salted and sweet finger foods enabling the customers to eat with their hands, which is an efficient way to facilitate food intake by some people.

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