



PROTOCOLUBES Preparation Guide (150 cubes, 0.75" × 0.75" × 3/8")

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Background

My recent endeavor into nutrition started from several s-podcasts related to ultra-processed foods, and their across-the-board negative effects to general health, really – very impactful. A recent article in Wall Street Journal pushed me into exploratory action: I decided to design 100% non-processed snacks designed to fill the nutritional energy gaps during the day in a healthy, and, importantly, non-addictive way. Here is the summary of the article.

SUMMARY OF THE ARTICLE

“Science journalist Michaela Douclevy ran a month-long experiment with her family to eliminate **ultra-processed foods (UPFs)**. Defined simply as foods with additives or ingredients not found in a home kitchen, UPFs include crackers, cereals, breads, snack foods, and flavored beverages.

Key Findings:

- **Health impact:** Within 10 days, both she and her daughter noticed reduced cravings and “food noise” (constant thoughts of snacking). A recent clinical study supports this, showing that minimally processed diets reduce cravings and promote weight loss.
- **Behavioral change:** Her daughter, once picky, began eating homemade meals with enthusiasm — suggesting UPFs undermine children’s natural hunger for whole foods.
- **Mental health:** Research links whole-food diets to lower rates of depression and better mood outcomes compared to social interventions.
- **Sustainability challenge:** Avoiding UPFs outside the home proved difficult, highlighting the need for “context-setters” — making certain environments (like the home or car) UPF-free.
- **Practical strategies:** Families can maintain this lifestyle by cooking together, investing in simple kitchen tools, and reframing homemade food as both pleasurable and rewarding.

Takeaway: Cutting UPFs doesn’t just improve physical health; it reduces cravings, restores appetite for whole foods, and enhances mental well-being. As Douclevy concludes, “foods that are better for you often taste better as well”.

Here is the product I designed - PROTOCOLUBES. I will report on it once I run (and consume within my family the first 150 protocubes.

PROTOCOLUBES Unprocessed Snacks

PROTOCOLUBES are compact, nutrient-dense energy cubes made entirely from **whole, unprocessed foods** with a light touch of natural sweetness. By combining oat groats, grains, legumes, seeds, fruit, and a drizzle of agave syrup, we achieve firm, portable cubes with oats as the chewy backbone. Each cube is a small, satisfying snack that delivers both nutrition and taste.

Ingredients for 150 Cubes (~615 g pre-dry mix → ~525 g finished)

- Whole oat groats (dry) — 185 g → yields ~270 g cooked/dried
- Quinoa (dry) — 60 g → yields ~90 g cooked/dried
- Red lentils (dry) — 45 g → yields ~60 g cooked/dried
- Pumpkin seeds (roasted) — 90 g
- Sunflower seeds (roasted) — 30 g
- Chia seeds — 18 g (soak with 54 g water)
- Dates (pitted) — 42 g (mashed into paste)
- **Agave syrup — 15 g (~1 tablespoon, natural binder/sweetener)**

1. Coordinated Process Flow

Step 1.1: Cook all grains and legumes

- **Oat groats:** Rinse → simmer 30–35 min in 3:1 water → chewy, not mushy → drain.
- **Red lentils:** Rinse → simmer 10–12 min in 3:1 water → just tender → drain.
- **Quinoa:** Rinse thoroughly → simmer 12–15 min in 2:1 water → tails uncurl → drain.

👉 You now have cooked oats, lentils, and quinoa ready for drying.

Step 1.2: Dry at 200 °F (95 °C)

- Spread **oats, lentils, quinoa** each on separate trays.
- Place all trays into oven **together**.
- Dry for **30–45 min**, stirring halfway, until firm and free of surface moisture.
- Remove trays when ready.

Step 1.3: Prepare seeds during drying

- Measure **pumpkin seeds** (90 g) + **sunflower seeds** (30 g).
- If raw → keep ready for toasting.
- If already roasted → set aside.

Step 1.4: Toast at 300 °F (150 °C)

- After drying step, increase oven to **300 °F**.
- Spread **dried oats** (pulse briefly into coarse grits first) on one tray.
- Spread **pumpkin + sunflower seeds** on another tray.
- Toast both trays together for **8–10 min**, stirring once.
- Remove when oats are golden + seeds fragrant.

Step 1.5: Prepare binders in parallel

While toasting is happening:

- **Chia gel:** Mix 18 g chia + 54 g water → rest 10 min.
- **Dates:** Pit, chop, mash into paste (steam/soak briefly if firm).
- **Agave syrup:** Measure ~15 g.

✅ At this point, all components are cooked, dried, toasted, and binders are ready. Move to Section 2.

2. Coordinated Mixing & Forming

Step 2.1: Combine dry ingredients

- In a large bowl: mix **toasted oats, dried lentils, dried quinoa, pumpkin seeds, sunflower seeds**.
- Stir thoroughly for even distribution.

Step 2.2: Add binders

- Fold in **date paste, chia gel, and agave syrup**.
- Mix by hand or spatula until sticky but still chunky.
- Oats and seeds should remain visible for texture.

Step 2.3: Prepare molds (during chia hydration)

- While chia gel is thickening (Step 1.5), set up **silicone molds** (0.75" × 0.75" × 3/8").
- Place molds on baking sheet for easy transfer to oven.

Step 2.4: Fill neatly

- Use a teaspoon or piping bag to portion ~3.5 g mix per cavity.
- Press firmly with spoon back or tamper.
- Smooth tops, wipe edges for uniform cubes.

Step 2.5: Bake & dry

- Place filled molds in oven.
- Bake at **200 °F (95 °C) for 60–90 min**.
- Reduce heat to **160–170 °F (70–75 °C)** and continue **1–2 h** until cubes are dry to the core.

Step 2.6: Cooling & curing

- Let cubes cool in mold.
- Optionally re-press lightly for firmness.
- Allow to rest **6–12 h** at room temperature before sealing airtight.

Nutrition (per 1 PROTOCUBE, ~3.5 g)

- **Calories:** ~25 kcal
- **Protein:** ~0.6–0.7 g
- **Fat:** ~1.2 g
- **Carbohydrates:** ~2.4 g (of which ~1 g natural sugars)
- **Fiber:** ~0.4 g

Conclusion

By synchronizing cooking, drying, and toasting steps, PROTOCUBE preparation becomes **efficient and consistent**. These cubes highlight the chewy strength of oat groats, balanced with quinoa, lentils, seeds, dates, chia, and a touch of agave. Each cube is a **bite-sized snack** that delivers natural energy, protein, and whole-food nourishment — proof that simple ingredients, when coordinated thoughtfully, can yield powerful nutrition.