Assistive Technology for Aging Adults: Safety & Cognition

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Mercarik
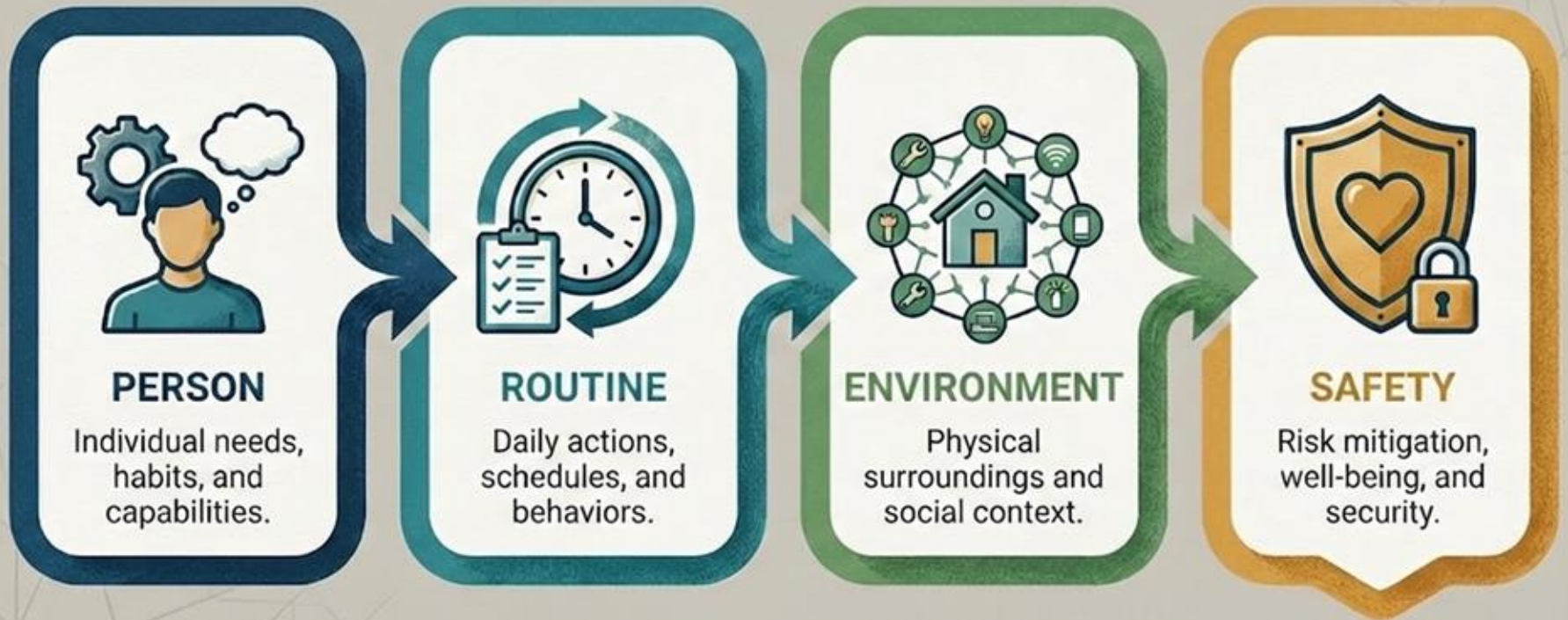
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How We Think About Safety & Cognition

➜Focus on routines, decision-making, and real-world risk

➜Cognition and safety are closely connected

➜Goal: reduce cognitive load—not add complexity

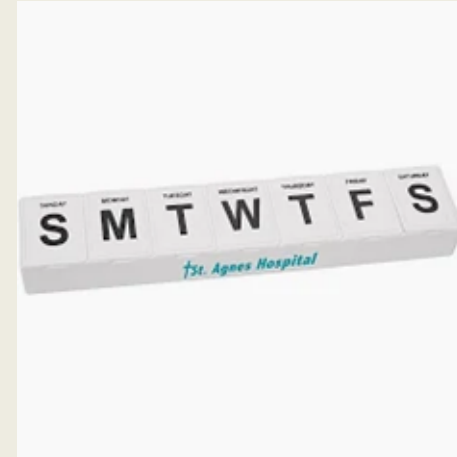➜Technology must support people and systems

Emergency Response & Reassurance (PERS)

- Wearable PERS (pendant or wrist)

- Automatic fall detection

- Mobile GPS-enabled systems

- Two-way voice response

Medication & Health-Related Safety

- Timed medication reminders
- Locked automated pill dispensers
- Alerts for missed doses
- Automation level must match need

Routines, Prompts & Cognitive Support

- Smart speakers for reminders
- Schedules and prompts
- Timers and task sequencing
- Predictability improves safety

Environmental Safety & Prevention

- Automatic stove shut-off
- Motion-activated lighting
- Door and exit alerts
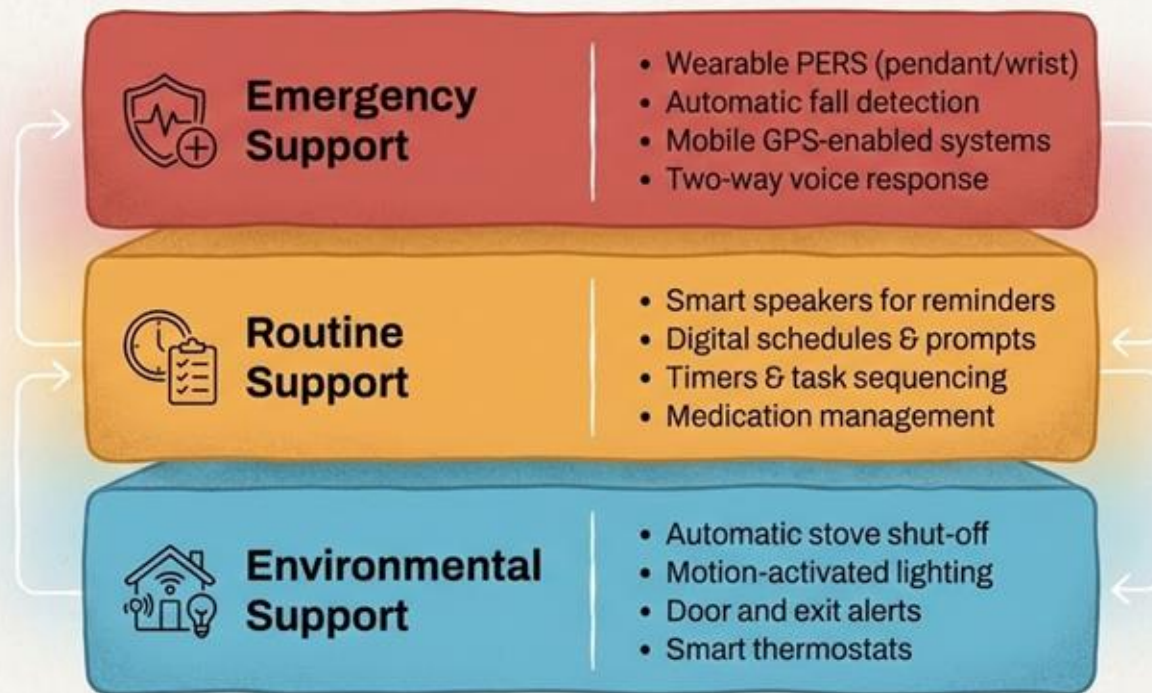- Environmental supports reduce memory demands

Layered Supports & Key Takeaways

- Complex needs require layered solutions
- Team collaboration is especially important in these situations
- Combine emergency, routine, and environment supports
- No single best device—only best fit
- Training and follow-up prevent abandonment

Layered Assistive Technology Supports

Combining emergency, routine, and environmental systems for comprehensive safety and cognition support

Emergency Support
- Wearable PERS (pendant/wrist)
- Automatic fall detection
- Mobile GPS-enabled systems
- Two-way voice response

Routine Support
- Smart speakers for reminders
- Digital schedules & prompts
- Timers & task sequencing
- Medication management

Environmental Support
- Automatic stove shut-off
- Motion-activated lighting
- Door and exit alerts
- Smart thermostats

When to Refer:
AT to support Safety & Cognition

➜ Repeated safety incidents

➜ Medication errors

➜ Missed routines or appointments

➜ Increased supervision needs

➜ Technology already purchased but unused

➜ Staff or caregivers unsure how to support safely

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Wrapping up

- These tools scale well in shared living settings
- Most effective when integrated into service models
- Collaboration makes technology sustainable