

LUNCH AND LEARN | 1 HOUR



Quiet Is Not Private

Speech Privacy and Sound Masking in Healthcare Environments

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About the Numbers in This Course

Standards, research and regulations are cited on the slides so you can check them. Design targets are typical values, not a substitute for an acoustical consultant's design, testing or stamped recommendation on your project. Always confirm the code and guideline editions adopted where you work.

Course Description

Modern healthcare buildings are cleaner, quieter and more open than ever, and that combination makes spoken patient information easier to overhear. This course explains speech privacy as a relationship between speech and background sound, introduces the Absorb, Block, Cover framework and the ratings behind it, and applies them space by space to hospitals and outpatient facilities. Participants will learn where speech leaks in healthcare settings, how design supports HIPAA's reasonable safeguards and patient rest, and where fixed and adaptive sound masking help or do not belong.



AUDIENCE

Architects, interior designers,
engineers, owners



LEVEL

Introductory to intermediate



FOCUS

Hospitals, clinics and outpatient
care

Learning Objectives



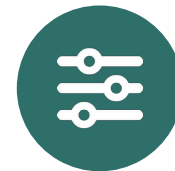
Explain why speech privacy depends on the relationship between speech level and background sound, and why quiet healthcare spaces are often less private.



Apply the Absorb, Block, Cover framework and interpret the ratings behind it (NRC, AC, STC, SPC, Privacy Index) to protect occupant well-being.



Identify where spoken health information leaks in hospitals and clinics, and select design strategies that support HIPAA reasonable safeguards and patient rest.



Evaluate where fixed and adaptive sound masking should and should not be used in healthcare, accounting for hearing loss, alarms and life safety.

Our Hour Together

Part 1

How Speech Privacy Works

Signal and background, the ABCs, the ratings, and how masking is tuned

25 min

Part 2

Healthcare, Space by Space

What is at stake, where speech leaks, and the quick fix for each space

25 min

Wrap Up

Takeaways and Questions

Design meeting questions and open Q&A

10 min

PART 1

How Speech Privacy Works

The physics, the tools, and the numbers behind them

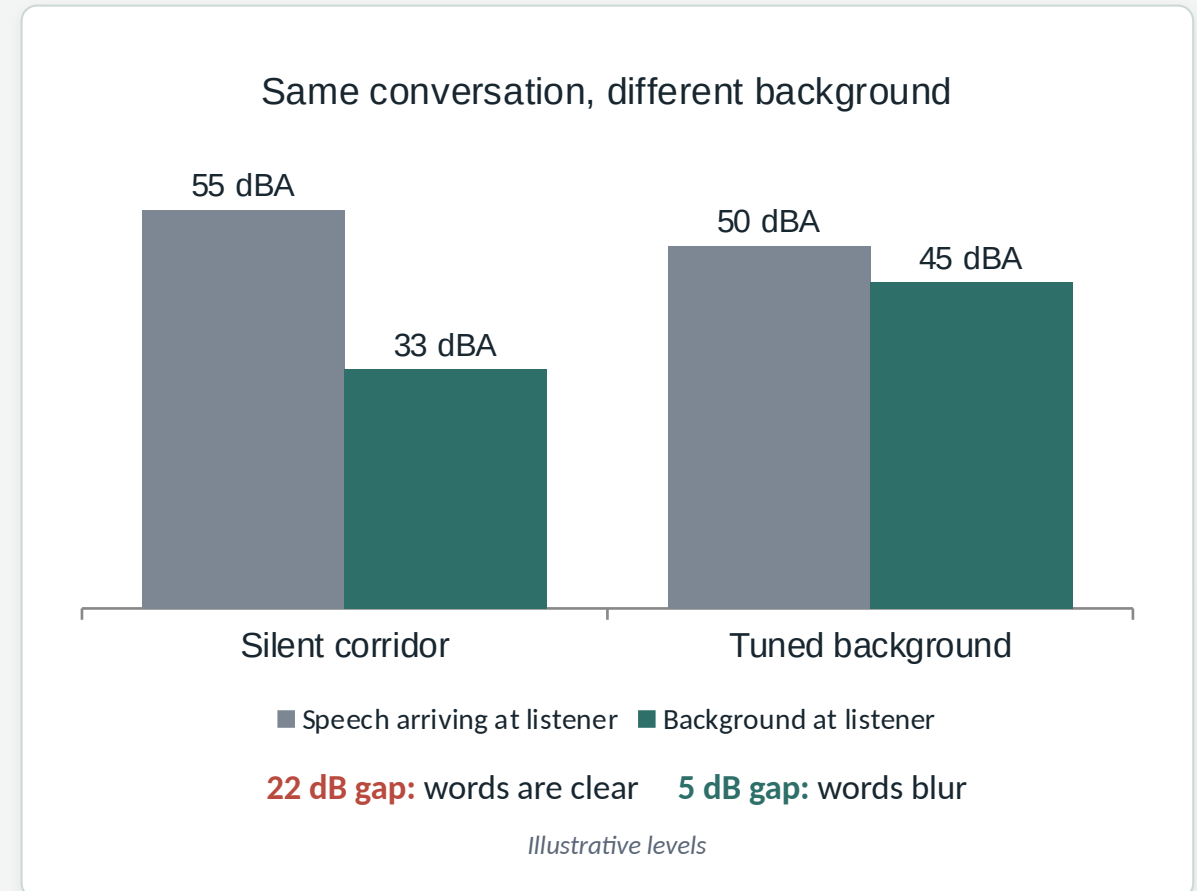
Quiet Is Not Private

Privacy comes down to one relationship at the listener's ear:

- How loud is the conversation when it arrives?
- How loud is the background where the listener stands?

When speech rises well above the background, the listener understands it. When the background is close to the speech, the words blur into sound the brain stops decoding.

Two ways to improve privacy: reduce the speech that arrives, or raise the background in a controlled, comfortable way.



What Changed in the Buildings We Design



Open plans

Fewer walls, more shared and flexible space.



More glass

Visual connection, with acoustic leaks at joints and doors.



Quieter buildings

Efficient HVAC and equipment removed the old background sound.



Higher expectations

Patients, clients and staff expect conversations to stay private.

Each is a good design decision. Together, they let speech travel further and stand out more.

Conversations Are Information

The question is not "Can someone hear something?"

It is "Can someone understand something they were never meant to hear?"



Healthcare

Names, diagnoses, test results, medications



Legal

Privileged strategy and client matters



Financial

Balances, loans, estates



Corporate

HR issues, strategy, customer data

What the Research Shows

~50% vs 18%

of open-plan occupants dissatisfied with sound privacy, compared with people in private offices

42,764 survey responses from 303 office buildings. The "ease of interaction" open plans promise did not make up for the lost privacy.

Kim and de Dear, Journal of Environmental Psychology, 2013

40% fewer

attempts at an unsolvable puzzle after three hours of low-level open-office noise

Stress hormone levels rose. The workers did not report feeling more stressed. The noise cost them without their noticing.

Evans and Johnson, Cornell University, Journal of Applied Psychology, 2000

Speaking the Language of Sound



Decibel

A logarithmic scale. About +10 dB sounds twice as loud. A 3 dB change is just noticeable.



A-weighted level

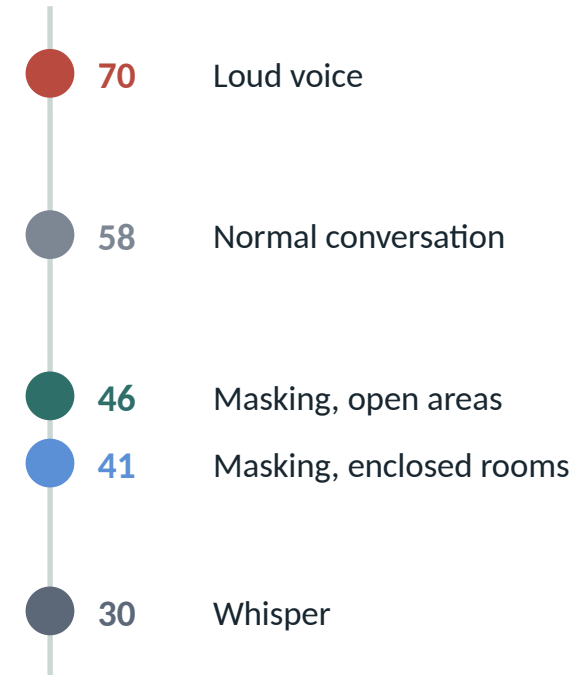
One number weighted the way human hearing responds. Masking is specified in dBA.



One-third octave bands

The frequency slices of a sound. One dBA number can hide a harsh or rumble spectrum.

Typical levels (dBA)



Masking values from GSA Sound Matters targets. Conversation and whisper levels are typical approximations and vary with distance and effort.

Privacy Is Not One Thing

Freedom from distraction

Nearby conversations stop pulling attention. Some speech may still be understood.

Open work areas, waiting rooms

Normal privacy

You can tell someone is talking and may catch a word, but can't follow it without effort.

Offices, exam corridors

Confidential privacy

Conversations are essentially unintelligible to anyone outside the group.

Counseling, consult rooms

Speech security

Information is protected by regulation or contract; a motivated listener may try to overhear.

Secure and accredited spaces

How Privacy Is Measured

Open plan spaces: ASTM E1130

Rating	Articulation Index	Privacy Index
Confidential	0.05 or less	95% or more
Normal	0.20 or less	80% or more
Poor	Above 0.20	Below 80%



A Privacy Index of 80% is normal privacy, not confidential. That distinction trips up a lot of marketing material.

Closed rooms: ASTM E2638, Speech Privacy Class

SPC	Category	A listener outside can expect
70	Minimal privacy	Speech frequently intelligible
75	Standard privacy	Occasionally intelligible
80	Speech security	Very rarely intelligible
85	High security	Essentially unintelligible
90	Very high security	Unintelligible, essentially inaudible

SPC adds the room's level reduction to the background outside, so it captures the speech-to-background idea directly.

SPC categories per Gover and Bradley, National Research Council Canada. Other SPC tables use different listener assumptions; name the table you cite.

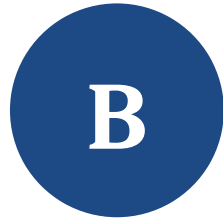
The ABCs of Speech Privacy



Absorb

Reduce the speech that reflects off ceilings and hard surfaces toward a neighbor.

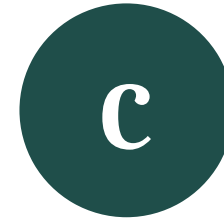
Ceilings, wall panels, soft finishes



Block

Stop sound from passing between spaces, and seal the paths around the barrier.

Walls, doors, glass, plenum barriers, seals



Cover

Raise the background at the listener with a tuned, comfortable masking sound.

Engineered sound masking

Take away any one and privacy drops, because each tool covers a gap the others leave. (The framework behind GSA's Sound Matters guidance.)

Absorb: Start With the Ceiling



Where absorption does the most good

The ceiling first. It is the largest surface and the main reflection path. GSA calls for NRC 0.90 or higher over open office ceilings.

Ask for AC in open plans. Articulation Class describes how well a ceiling limits speech reflected between workstations.

Walls at speaking height in meeting rooms, glass offices and corridors.

Healthcare-rated tiles come in washable and scrubbable versions, so cleanable does not have to mean hard.



Absorption traps

Treating NRC as the whole story. Ask for the full coefficient table.

Foam finishes without fire testing. Foam plastics typically need NFPA 286 room-corner testing under the IBC.

Expecting it to stop sound through walls. That is blocking.

Over-treating. A room that is too dead makes people raise their voices.

Block: The Weak Links Decide



Doors

Undercut or ungasketed doors are often the weakest element in the room.



Walls that stop at the ceiling

Sound goes up, across the plenum, and down next door.



Ducts and transfer grilles

Shared returns act like speaking tubes.



Glass and mullions

Gaps at joints and doors rarely match the adjoining wall.

STC is a lab number. Rooms perform in the field.

Partition STC	Typical experience next door
25 to 30	Speech easily understood
35 to 45	Loud speech audible, less clear
50 to 55	Normal speech generally private
60 to 65	Loud sounds barely audible

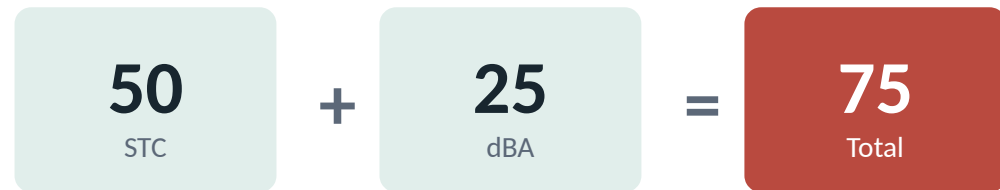
Descriptions assume a quiet background and a well-built room. Field ratings (ASTC, NIC) often land several points below lab STC once flanking paths are included.

STC descriptions adapted from Riverbank Acoustical Laboratories guidance. STC per ASTM E90 and E413; field ratings per ASTM E336.

Why Blocking and Covering Work as a Team

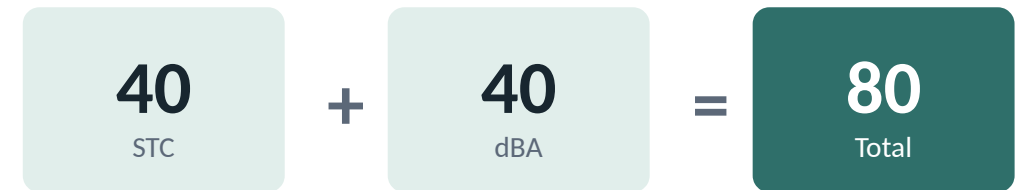
Wall STC + Background dBA at the listener ≈ 75 for basic speech privacy

An expensive wall, a silent corridor



Barely reaches the target. Any leak at the door or plenum and it falls short.

A standard wall, a tuned background



Beats the heavier wall, and the corridor background protects every room along it.

A consultant rule of thumb for screening, not a design method. It ignores flanking paths; critical rooms need a design and field test.

Cover: What Sound Masking Is, and Is Not



Sound masking is

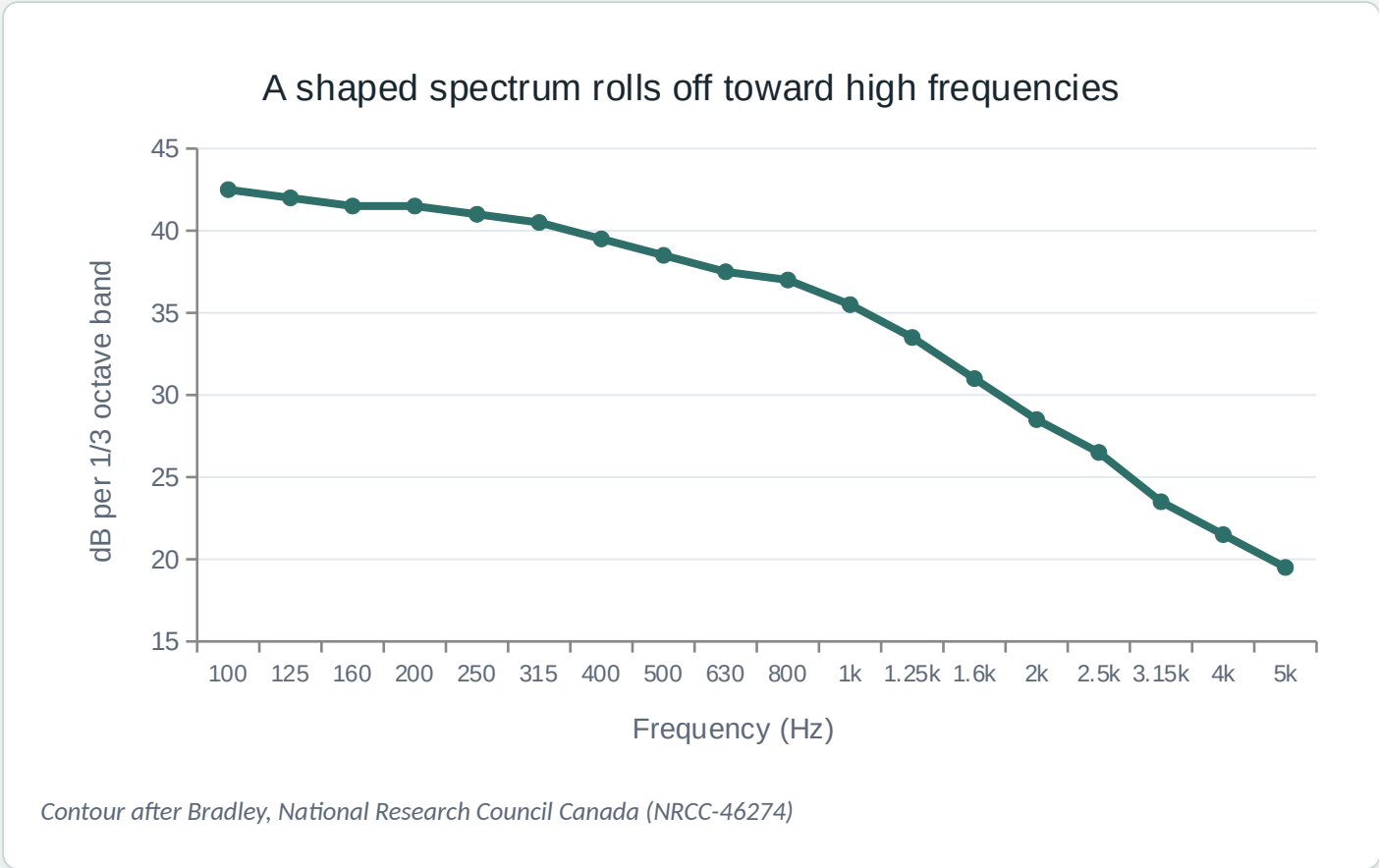
- An engineered background sound played through a network of speakers
- Shaped across frequency bands to cover the sounds that carry speech
- Tuned zone by zone and measured (ASTM E1573)
- Heard as soft, even airflow when done well
- A way to shrink the distance at which speech is understood



Sound masking is not

- White noise, which is harsh and hissy at privacy levels
- A way to reduce echo or reverberation (it adds sound)
- A replacement for walls, doors and seals
- A fix for loud or tonal HVAC noise
- Confidential privacy in an open plan on its own

Tuned, Not Just Turned On



Typical design targets

45 to 48 dBA

Open work areas

40 to 42 dBA

Enclosed offices

Low 40s dBA

Healthcare exam and consult areas

Specify tolerances for overall level and each band, zone by zone, and verify by measurement. An average that hides quiet spots leaves privacy holes.

Open and enclosed targets from GSA Sound Matters. Measurement and reporting per ASTM E1573.

Where Masking Should Not Go, or Needs Great Care



Classrooms and lecture rooms

ANSI/ASA S12.60 limits classroom background noise to 35 dBA so students can hear. Mask the offices instead.



Patient rooms and ICUs

Promising sleep research, but alarm audibility and patient control make it a clinical decision.



Conference, video and courtrooms

People inside need clear speech and microphones pick up masking. Mask the corridor outside.



Anywhere life safety depends on hearing

Masking, music and paging should mute when the fire alarm or mass notification activates.



Spaces for people with hearing loss

Added background sound can make conversation harder: senior living common areas, audiology suites.

Rule of thumb: put masking where the listener is, not inside the room you are trying to protect.

Design It, Tune It, Measure It

Plenum-mounted

Speakers above a suspended ceiling; the plenum and tiles diffuse the sound. Hardware stays hidden, but results depend on plenum depth, obstructions and tile performance.

Direct-field

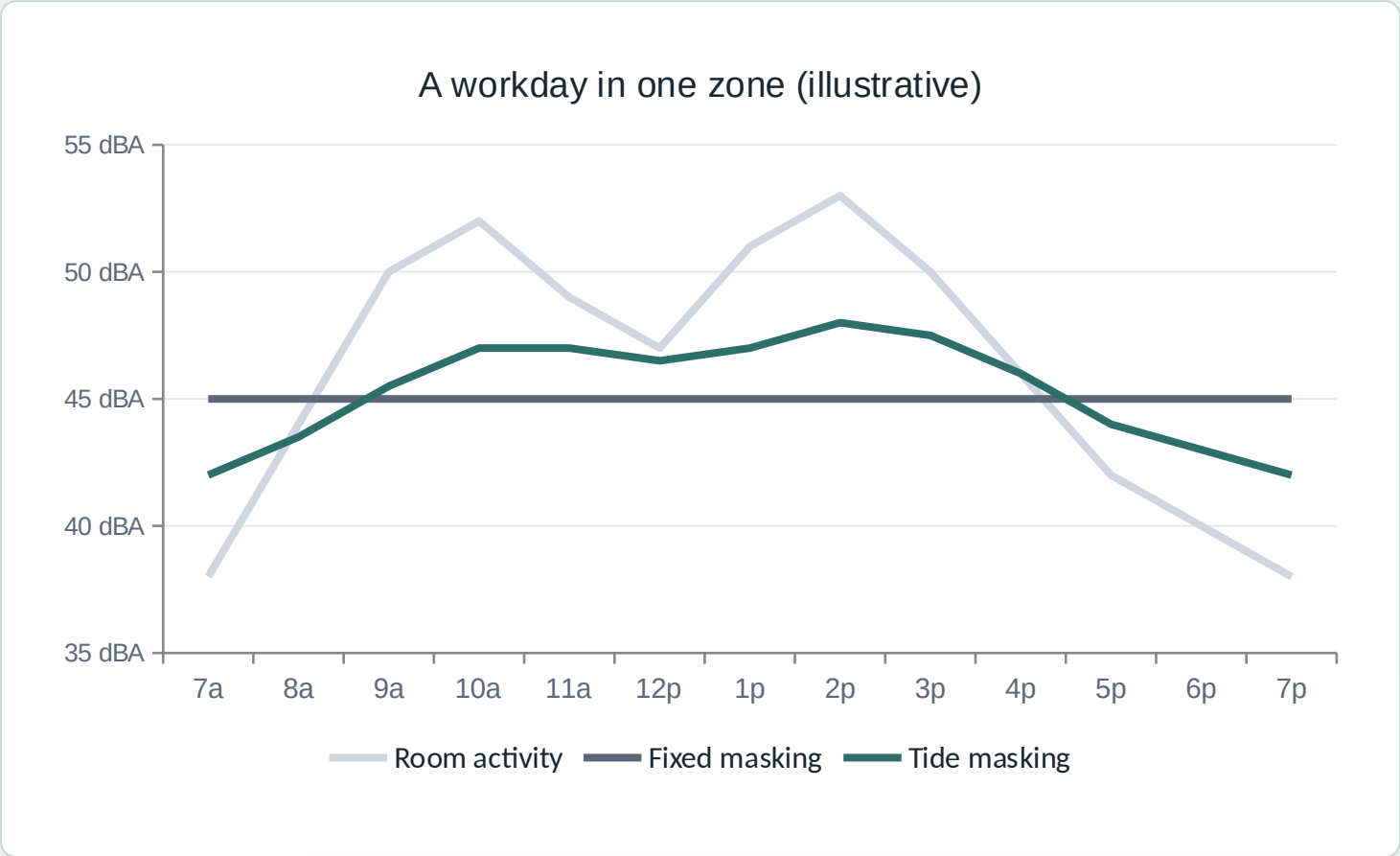
Small speakers in or on the ceiling plane facing into the space. Generally more uniform and controllable, and works with open ceilings, with visible devices.

The right choice depends on the ceiling, architecture, budget and the uniformity required.

Commissioning checklist

- ✓ Measure the background with masking off, so everyone knows what HVAC contributes
- ✓ Tune each zone to the target spectrum, not just the dBA number
- ✓ Check uniformity near walls, columns and transitions
- ✓ Listen: if you can locate a speaker by ear, adjust
- ✓ Ramp up gradually over days or weeks in occupied spaces
- ✓ Document by zone and revisit after occupancy

The Tide Principle





Quiet morning
Settles low, so no one notices it.



Busy afternoon
Rises so conversations stay covered.



Always in bounds
Inside set limits, changing too slowly to hear.

Getting the Tide Right



Sense each zone

Sensors measure ambient conditions where people actually are, not one reading for the whole floor.



Set the shoreline

A floor and a ceiling around the design target, for example 42 to 48 dBA around 45.



Move slowly

Changes of a small fraction of a decibel per second, so occupants never hear a shift.



Verify and log

Measure it like any fixed system, and keep a history to see how zones behave over time.



Done poorly, a system that chases every noise becomes the distraction. Clear limits and slow rates are what make it disappear.

The Most Expensive Myths



"Quiet is private."



Silence makes speech easier to understand.



"Masking is just white noise."



It is a shaped, tuned, measured spectrum.



"Masking reduces echo."



Reverberation is controlled with absorption.



"We'll just use the HVAC."



It varies with load, has the wrong spectrum and often tones.



"STC 50 walls guarantee privacy."



Not with an undercut door, a shared plenum and a silent corridor.



"Privacy Index 80% is confidential."



Under ASTM E1130, 80% is normal. Confidential is 95%.

PART 2

Healthcare, Space by Space

Hospitals, clinics and outpatient care: what is at stake, where speech leaks, and the quick fix

Two Jobs: Protect What Patients Say, Help Them Rest



Privacy

HIPAA Privacy Rule

Reasonable administrative, technical and physical safeguards for protected health information, including spoken information (45 CFR 164.530(c)).

FGI Guidelines

Acoustic criteria for sound isolation, background noise and speech privacy in hospitals and outpatient facilities. The 2026 editions include acoustic updates; confirm your state's adopted edition.



Rest

HCAHPS patient survey

Asks how often the area around the room was quiet at night. A restfulness measure is scheduled for public reporting starting October 2026.

WHO guidelines

Recommend patient room levels around 30 dBA on average, with night peaks near 40 dBA. Few modern hospitals achieve it.

HIPAA and Acoustics: The Straight Facts



What HIPAA does

- Requires reasonable safeguards for spoken health information
- Permits incidental disclosures when reasonable safeguards are in place
- Uses simple examples: speaking quietly in waiting areas, avoiding patient names in hallways



What HIPAA does not do

- Set acoustic metrics or target decibel levels
- Certify any product as "HIPAA compliant"
- Require facilities to be soundproofed or guarantee nothing is ever overheard

Good acoustics is one reasonable safeguard among many. Be wary of "HIPAA compliant" product claims.

Anatomy of a Healthcare Floor: Where Speech Leaks



Simplified composite plan for discussion

- 1 Registration and waiting
- 2 Nurse station
- 3 ED curtain bays
- 4 Pharmacy and discharge
- 5 Exam room corridor
- 6 Counseling and behavioral health
- 7 Provider workroom
- 8 Patient rooms

Character, Flaw and Quick Fix

Space	Character	The flaw	Quick fix
1 Registration and waiting	Crowded, hard cleanable surfaces; names, birth dates and insurance spoken aloud	The next person in line hears everything. TV and radio are inconsistent cover.	Absorptive healthcare ceiling, staggered positions or partial screens, tuned masking over the queue and waiting area
2 Nurse station	Open hub for handoffs, phone calls and family updates	Voices carry down corridors into patient rooms, worst at shift change	Absorption overhead, masking in the surrounding corridor, a room with a door for the most sensitive calls
3 ED curtain bays	Patients separated by curtains	Curtains provide essentially no sound isolation	Rooms with doors for the most sensitive talks. Masking shortens how far speech carries but cannot make a bay confidential
4 Pharmacy and discharge	Medication counseling at a window with a line behind	Drug names and diagnoses overheard by the next customer	A consultation room or booth, plus masking focused on the counter and queue

Character, Flaw and Quick Fix

Space	Character	The flaw	Quick fix
5 Exam room corridor	Small rooms, walls often to the ceiling only, undercut doors	The door and plenum are weaker than the wall	Walls to deck or plenum barrier, solid gasketed doors, masking in the corridor
6 Counseling and behavioral health	Long, emotional, sometimes loud conversations; some records carry added 42 CFR Part 2 protections	Transfer grilles and shared ducts act as speaking tubes	The highest blocking in the building, no transfer grilles, masking just outside the door, never inside the room
7 Provider workroom	Charting alcoves and case discussions	Often carries farther than anything said in an exam room	Enclose it or move it away from waiting, and mask adjacent circulation
8 Patient rooms	Where patients rest and receive news	Corridor talk, carts and alarms; masking inside is a clinical decision	Seal doors, reduce overhead paging, and decide on in-room masking with nursing and clinical engineering

Patient Rooms and Sleep: Promising, Not Proven

2005

ICU noise study

Sleep arousals from recorded ICU noise were driven by the change from background to peak level. Adding continuous white noise brought arousals back near baseline.

Stanchina et al., Sleep Medicine, 2005

2025

Systematic review, 7 randomized trials

Sound machines were well tolerated and associated with better sleep in hospitalized adults. The authors called for larger studies and standard parameters.

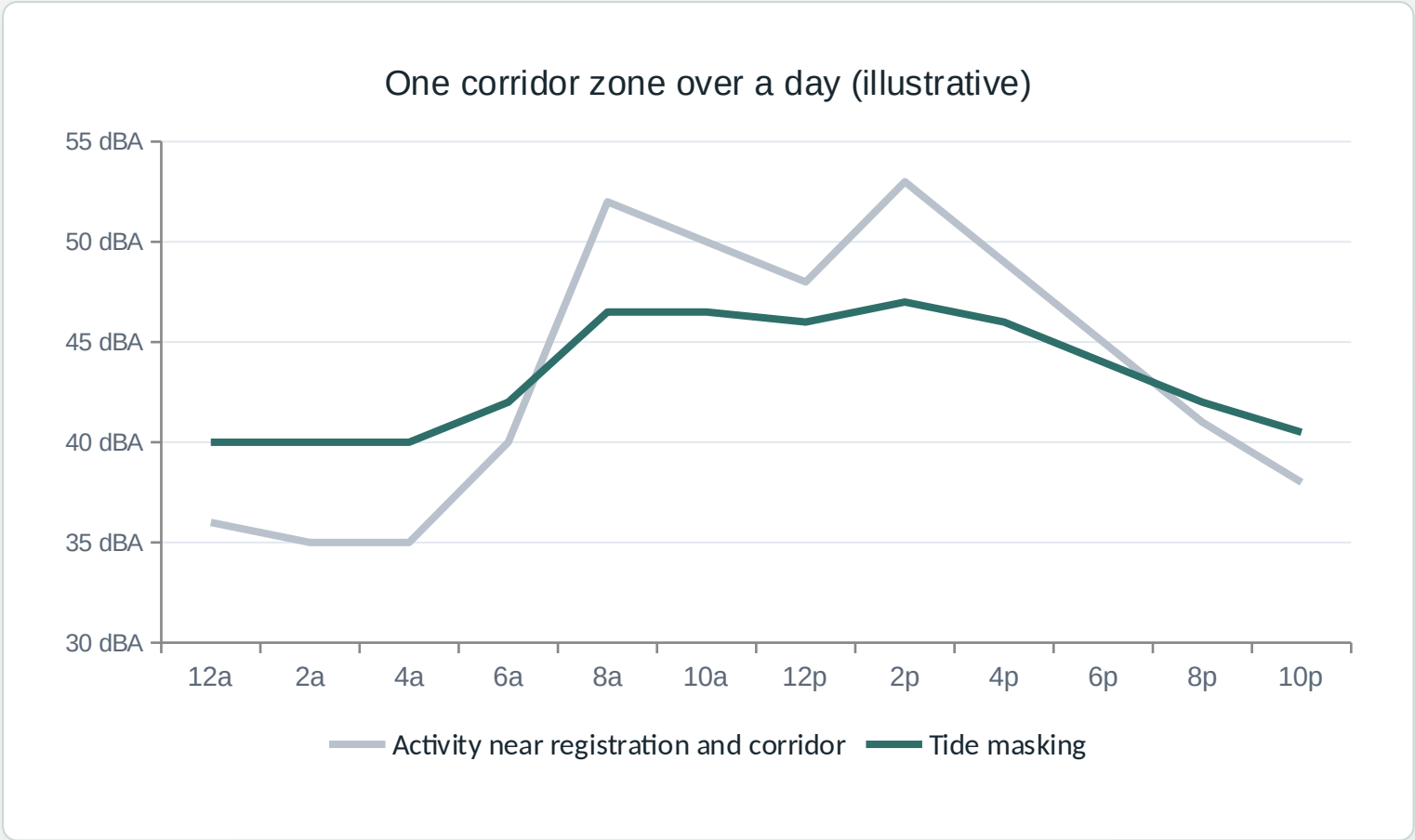
Sleep Medicine: X, 2025

Before masking a patient room, involve the clinical team

- ✓ Alarm and call audibility
- ✓ Patients with hearing loss
- ✓ Patient control to turn it down or off
- ✓ Nursing and clinical engineering sign-off

Often the fastest win for rest: fewer overhead pages, managed alarm volumes, quieter carts.

The Tide in a Hospital: A 24-Hour Rhythm



7 am shift change

Handoffs spike activity; masking rises to cover them.



2 pm registration rush

Holds near its upper limit while the queue is long.



2 am corridor

Settles to its floor so resting patients are not disturbed.

The Quick Recipe for Healthcare Speech Privacy



Map the conversations

Where do staff and patients discuss health information, and who can hear?



Absorb

Healthcare-rated acoustic ceilings at stations, corridors and waiting.



Block

Exam and counseling rooms: walls to deck, gasketed doors, no transfer grilles.



Cover

Masking in waiting, registration, corridors, pharmacy and outside counseling doors.



Let it tide

Adaptive masking with set limits in spaces whose activity swings over 24 hours.



Integrate and verify

Mute on fire alarm, coordinate nurse call and paging, measure per ASTM E1573, follow ICRA.

Traps We See in Healthcare Projects



Selling "HIPAA compliance"

Frame acoustics as one reasonable physical safeguard among many.



Expecting masking to make ED bays confidential

A conversation two feet from another patient will not become confidential. Give it a room.



Ignoring alarm fatigue and overhead paging

Reducing pages and managing alarm volumes often does more for night quiet than any added system.



Skipping infection control

Ceiling work in occupied hospitals needs an infection control risk assessment and approved procedures.

From the Field: A Small Clinic



The situation

Several exam rooms opened directly off a busy waiting room. Patients were visibly uncomfortable because they could hear the reception desk and the exam rooms.

The change

Masking was added in the reception area and around the exam rooms, tuned and brought up gradually.

The result

"Patients began telling staff they felt more at ease discussing their health. One nurse said the whole clinic felt more professional."

WORTH KNOWING

The FGI Guidelines recognize background sound

The 2022 FGI outpatient guidelines allowed a lower sound isolation rating between exam rooms when electronic sound masking is used: formal recognition that background sound is part of the privacy equation.

Confirm how your state's adopted edition treats it.

Questions for Your Next Healthcare Design Meeting



Which FGI edition applies, and what acoustic criteria does it set for these spaces?



Where do staff discuss patient information in public view, and what surrounds those spots?



Do exam and counseling rooms have walls to the deck, sealed doors and no transfer grilles?



Is masking limited to corridors, waiting, registration and support areas? If patient rooms are considered, who from the clinical team is involved?



Which zones see big swings in activity over 24 hours, and should they tide?



How will masking interface with the fire alarm, nurse call and paging, and who will measure results after occupancy?

Key Takeaways



Quiet is not private

Privacy is the relationship between the speech that arrives and the background at the listener.



Use all three tools

Absorb, Block and Cover work as a system, and the ratings tell you whether they are working.



Know where healthcare leaks

Registration, nurse stations, exam corridors and counseling rooms need attention first.



Mask where the listener is, and let it tide

Adaptive masking within set limits fits 24-hour spaces; patient rooms stay a clinical decision.

Questions?

Thank you for spending the hour with us.

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LET'S TALK

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Email Alex

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Book a lunch and learn for your team.