

IAAPA Attractions **EXPO**

Breathe Easy: Air Quality Management in Indoor Waterparks

11/12/2007

1:30pm

Room #S331AB



IAAPA



What is unique to an indoor waterpark?

- Controlled humidity and temperature
- Comfortable environment
- Restricted occupancy
- Air quality control and monitoring necessary
- 365 day operation is 3 outdoor seasons of wear and tear
- Corrosion

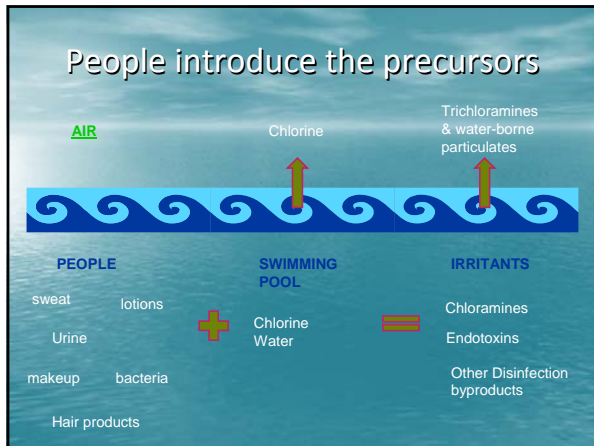
Air & Water Quality

THIS ISN'T A SWIMMING POOL ON A SUNNY DAY.

NO?

THIS IS WATER ENRICHED WITH PURE AWESOME PARTICLES.

QUIT COMPLICATING MY SUMMER.



- ### How do we control irritants?
- Water Quality
 - Limit introduction of chlorine
 - Secondary technology to break down combined chlorine
 - Small micron filtration
 - Air Handling
 - Keep it clean
 - Monitor temperature and humidity
 - Push air high, remove it low
 - People
 - Public awareness
 - Loading/occupancy
 - Enforcement

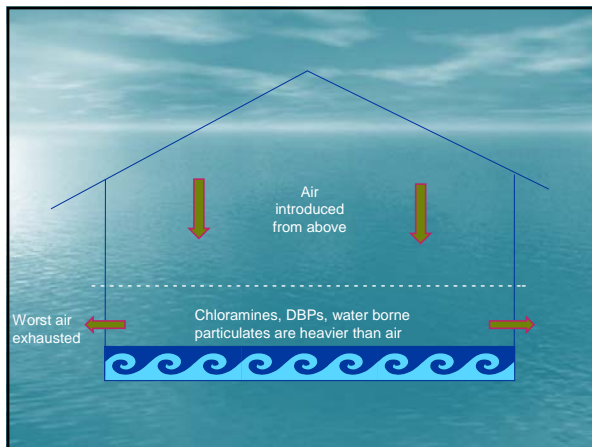
- ### Water Quality
- Lower free chlorine: less in the air, less to combine
 - Drop pH to achieve ORP for effective disinfection
 - Small micron filtration addresses bacterial bodies
 - Monitor TDS, salts
 - Introduce fresh water every day
 - Utilize UV or ozone to oxidize combined chlorine

Combined chlorine control

- Superchlorination is not always feasible. Cannot exhaust the off-gassing fast enough
- Keep UV and ozone clean
- Inspect every day
- Keep it cool
- Pools recover at night
 - Turn on features early to exhaust off-gassing

Air Handling Principles

- 30 years of HVAC design for “dry” buildings doesn’t work for “wet” buildings
- Need to focus on the worst air



Air Handling continued..

- Low returns & Diffusers kept clean
- Air handler filters and fan blades kept clean
- Air, like pools, recover at night.
 - Keep UV or ozone operating at night
 - Keep air handlers operating at night

Guest Awareness




What they need to know

- TAKE A SHOWER BEFORE YOU ENTER THE POOL and AFTER YOU LEAVE
- DO NOT PEE IN THE POOL
- DO NOT POOP IN THE POOL

Managing guests

- Shower before and after
- Lower pool temps especially hot tubs
- Limit time in hot tubs, especially toddlers
- Monitor occupancy
- Parents should take children to the bathroom
- Take a shower after and moisturize



WILEY SAYS...

THIS PLACE HAS IT ALL
TOWELS, LIFE VESTS, SNACK TUBS, SWIM DIAPERS, DRINKING WATER, SHOWERES, LOCKERS AND COOL DRINKS.

HAVE A BALL & STAY SAFE!
READ ALL SIGN AND LISTEN TO YOURS AND INSTRUCTIONS.

KEEP YOUR PUPS CLOSE
ALWAYS MAKE SURE TO HOLD YOUR PUP.

STAY HYDRATED!
THE WATERPARK IS AN IDEAL PLACE TO STAY HYDRATED. DRINK PLENTY OF WATER.

SHOWER AFTER PLAYING
SHOWER AFTER USING THE WATERPARK. REMEMBER THE LOTION!

DON'T SPREAD GERMS
PLEASE DO NOT USE THE BATHROOMS IF YOU ARE EVER SICK OR HAVE FLU-LIKE SYMPTOMS.

BUCKLE UP!
SWIM BUOYERS ARE AVAILABLE FOR PURCHASE THROUGHOUT THE WATERPARK.

TRIMMEL THEM CHILL
EASILY MAKE BOUND TIME WITH THE PACK PROCEDURE.

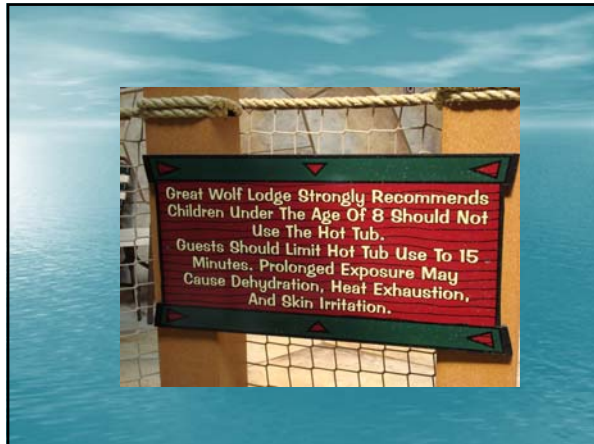
STAY COOL
DON'T GET TOO HOT TO 33 DEGREES. WE RECOMMEND PUPS UNDER THE AGE OF 6 DO NOT USE THE HOT TUBS.

TAKE A BREAK FROM THE WATER
CIRCLE UP FOR SUN, THE BEACH, & GETTING HUNGRY. HELP MAKE A TRUCKLOAD TONER DRINK BETWEEN RIDES.

Guest Education

Managing Guests

- Signs – instructions, warnings, restrictions
- Hydration is the key
- Awareness
 - need to understand consequences, not just rules
 - Know their own limitations
 - Make decisions for minors



Employees

- Talk to your staff – they are the best indicator
- Don't be afraid to take action when needed
- Don't try to hide the issues

Assisting Employees

- Observe behavior
- Keep an open door to sharing issues
- Talk to employees
- Experience it for yourself.
- Provide awareness
- Offer alternatives

Questions?

Jason Arthur
Regional Director of Aquatics
Great Wolf Resorts
2501 Great Wolf Drive
Mason, OH 45040
jarthur@greatwolf.com
